



# Unreasonable Risk

THE POLITICS OF PESTICIDES



THE CENTER FOR PUBLIC INTEGRITY

## ERRATA

Chapter 1: Starting at the bottom of page 12 and continuing through the end of the chapter, footnote number 16 should be number 19, number 17 should be number 20, number 18 should be number 21, etc. In the “Notes” section beginning on page 67, the citation numbers for this chapter are correct as they appear.

Pages 9 and 11: Of the 36 pesticides most commonly used by Americans on their lawns, 30 — not 24 -- have never been fully tested by the Environmental Protection Agency.

Page 24: The settlement between the Herbs and Dow Chemical Company occurred in 1995, not 1990.

Page 27: Footnote number 14 should be number 15.

Page 35: Footnote number 43 appears twice on this page. The second appearance, in the first full paragraph, should be number 44.

Page 70: In citation number 12, Alan **Woolf**'s name is misspelled.

Page 71: Citation number 42 should read: "The Center for Public Integrity analysis of 1987-96 campaign finance records." Citation number 43 should read: "The Center for Public Integrity analysis of 1996 lobbying disclosure forms."

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## *About the Center for Public Integrity*

THE CENTER FOR PUBLIC INTEGRITY, founded in 1989 by a group of concerned Americans, is a nonprofit, nonpartisan, tax-exempt educational organization created so that important national issues can be investigated and analyzed over a period of months without the normal time or space limitations. Since its inception, the Center has investigated and disseminated a wide array of information in more than thirty published Center Reports. The Center's books and studies are resources for journalists, academics, and the general public, with databases, backup files, government documents, and other information available as well.

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# Summary

**A** little more than a year ago, the Center for Public Integrity, in collaboration with two prize-winning environmental journalists, made news across the nation with the publication of *Toxic Deception: How the Chemical Industry Manipulates Science, Bends the Law, and Endangers Your Health*. In that book, we concluded that the federal agencies that are supposed to protect American consumers, farmers, and workers from toxic chemicals have failed as watchdogs because they have been **defanged** by manufacturers and industry groups. While pointing out that very few Americans realize that the Environmental Protection Agency considers all chemicals safe until proven otherwise, we documented the problems inherent in a system that relies almost exclusively on tests that have been designed and conducted by manufacturers or by laboratories that they have hired.

*Toxic Deception* won wide praise from journalists, academics, and environmental activists—but not, perhaps understandably, from chemical manufacturers. “*Toxic Deception* shows how the industry uses campaign contributions, junkets, job offers, ‘scorched-earth’ courtroom strategies, misleading advertising, and multimillion-dollar public-relations campaigns to keep their products on the market no matter how great the potential dangers,” Bob Herbert of *The New York Times* wrote in his column.<sup>1</sup> “[*Toxic Deception*] is a stunningly documented account of the tactics companies have used when their products have been shown to be harmful,” Donella Meadows, an adjunct professor of environmental studies at Dartmouth College and a nationally syndicated columnist, wrote.<sup>2</sup> “This is one of those **exposés** so powerful,” investigative journalist Steve Weinberg wrote in *Legal Times*, “that if only 10 percent of it turned out to be accurate, it would still be scary.”<sup>3</sup>

In particular, *Toxic Deception* concluded that:

- Chemical manufacturers twisted scientific studies and misled the public and government regulators in order to play down the dangers of four common toxic **chemicals—and** the EPA failed to stop them. All four **chemicals—the** pesticides atrazine and **alachlor**, the preservative formaldehyde, and the dry-cleaning solvent **perchloroethylene—remain** in wide use today.
- Federal regulatory agencies, under pressure from the chemical industry, have all but abandoned the long-term testing of chemicals on animals, the only method known to predict accurately whether a substance can cause cancer in humans.
- The EPA's record of policing the private laboratories that conduct vitally important safety tests is even worse today than it was in 1991, when the EPA's lack of oversight was the subject of a scathing report by its inspector general. The EPA has never inspected about 1,550 of the 2,000 labs doing the manufacturer-funded studies that it uses to decide whether chemicals are safe.
- In a single two-year period, EPA **employees—who** are entrusted with the job of determining which chemicals are safe and which ones are **not—took** at least 3,363 trips that were paid for by corporations; universities, trade associations, labor unions, environmental organizations, and other private sponsors.
- In 1991 and 1992, after the EPA offered amnesty from large fines to any manufacturer that turned in unpublished scientific papers that should have been submitted earlier, chemical companies suddenly produced more than 10,000 studies showing that products already on the market could pose "substantial risk of injury to health or to the environment."
- Over a four-year period, the companies that manufacture the four chemicals that the book examines gave 214 free trips to Capitol Hill lawmakers and even flew a key committee chairman to Rio de Janeiro. Some lawmakers also collected tens of thousands of dollars in speaking fees and political contributions from chemical manufacturers. In all, the chemical industry poured more than \$20 million into congressional campaigns from 1979 to 1995."

Why is it that when it comes to regulating dangerous chemicals, federal government officials and Capitol Hill lawmakers have seemed for so many

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years as if they're swimming in quicksand, with about as much success? That's the question we set out to answer in *Toxic Deception*.

In this, our third "Congress and the People" study, we have asked the same question with respect to a different set of dangerous chemicals: **diazinon**, 2,4-D, and other lawn chemicals; **chlorpyrifos**, one of the most common pesticides used by exterminators; and methyl bromide, a pesticide and **fumigant** that is hazardous to both humans and the ozone layer. It is, of course, the role of our federal **government**—Congress, the EPA, and, to a lesser extent, the Food and Drug Administration—to protect the public from toxic chemicals. Congress, however, clearly plays the most powerful role because of its oversight responsibility over the EPA, the FDA, and the pesticide industry. It can subpoena records and witnesses for public hearings on whatever subject it **chooses**, promulgate new laws, and withhold or increase the taxpayer dollars given to these federal regulatory **agencies**. It has the power, in other words, to set the public's agenda. To do its job most objectively and independently, of course, Congress should be unfettered and not beholden to any economic interest affected by its decisions.

Unfortunately, that has not been the case.

As a nonprofit, **nonpartisan** organization that publishes investigative studies about public-service and **ethics-related issues**, the Center does not take formal positions on legislative matters, and we certainly have no "agenda" when it comes to public-policy alternatives in the area of pesticides or environmental protection. As with nearly all of our past 31 reports released since 1990, our interest is straightforward: examining the **decision-making** process of government and whether or not it has been distorted in any way.

This major Center investigation involved conducting scores of interviews and reviewing thousands of pages of data from the Federal Election Commission and the Center for Responsive Politics, records of the EPA, House and Senate lobbying and financial disclosure reports, and congressional hearing transcripts, in addition to thousands of secondary sources.

We found that Congress has, time and time again, put the economic interests of the pesticide industry ahead of the safety of the American public.

Among the Center's principal findings:

- Of the 36 pesticides most commonly used by Americans on their lawns, 32 have never been fully tested by the EPA. In 1987, Representative George Brown, a Democrat from **California**, declared: "The inability of the federal **government** . . . to give informed answers about the health and safety of currently registered pesticides is both a national disgrace and an economic disaster." It still is.

- The pesticide industry has enlisted trade associations representing interests as diverse as tobacco companies, breweries, farmers, and supermarkets to join its drive to put pressure on Congress to weaken **the** laws that govern pesticides. Known as the Food Chain Coalition, these groups have banded together to thwart attempts to regulate pesticides and to undermine the Food Quality Protection Act, which became law in 1996. Collectively, the members of this coalition and the companies they represent have poured \$84.7 million into congressional campaigns between 1987 and 1996. Their investment has clearly paid off, as Congress has done far more to protect pesticides than to guard the public. Some Capitol Hill lawmakers with key roles overseeing the regulation of poisons have taken hundreds of thousands of dollars in campaign contributions from these interests.
- Monsanto Corporation, E.I. du Pont de Nemours and Company, Dow AgroSciences, and 32 other manufacturers of pesticides for home and garden use have banded together for lobbying purposes in an organization that calls itself Responsible Industry for a Sound Environment. All told, RISE and its member firms spent more than \$15 million in 1996 to employ 219 Washington lobbyists, including 24 former House staff members, 22 former Senate staff members, ten former Executive Branch officials, nine former White House aides, four former Representatives, and three former Senators.
- From 1988 to 1995, more than 65 bills were introduced in Congress to tighten pesticide regulations. Not one of them passed.
- Since forming an ad hoc group called Industry Task Force II on 2,4-D Research Data, Dow **AgroSciences**, **Rhône-Poulenc** Rorer, and **other** manufacturers of **2,4-D**—**the** nation's most widely used lawn **chemical**—**have** spent at least \$34 million on studies and surveys to present to the EPA. Donald Page, the executive director of the task force, told the Center that **reregistration** of 2,4-D "is in the bag."

Would there be more aggressive congressional oversight or new legislation to protect Americans from pesticides if Congress were not so dependent on the chemical industry? Would Members of Congress be more objective in **their** oversight responsibilities if they had not received hundreds of thousands of dollars in speaking fees from the industry or if their former colleagues and staff had not doubled or tripled their annual salaries as **chemical**-industry lobbyists, knocking on lawmakers' doors every day? Would Members of Congress be less sympathetic to the **economic**, cost-benefit rationales pro-

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pounded by the industry as an excuse not to improve safety standards if they weren't taking large sums of campaign cash from them? Logic and common sense can only answer these questions in the affirmative.

Is it possible that the federal regulatory system, the way in which political campaigns are financed, the judicial system's increasing secrecy, the paucity of non-industry funding for cancer research, and the news media's confusion about which scientist to believe all skew public discourse and policy in favor of the continued manufacture of fundamentally dangerous products? The answer is yes. With millions, perhaps billions, of dollars to spend on lawyers, scientists, PR firms, campaign contributions, secrecy orders, and years of litigation, the pesticide industry—with the help of Congress—has succeeded in challenging the outgunned, underfunded government's every regulatory move.

What makes all of this especially important is that the public health is involved, as is the trust of the American people in their government. Even with today's crisis of confidence in politicians and government generally, most of us assume that Congress and such regulatory agencies as the EPA and the FDA exist, first and foremost, to safeguard us from harmful substances.

When it comes to pesticides, the agenda in Congress today is substantially set by the industry. It is apparent, in fact, that pesticide-industry interests have overwhelmed the supposedly objective decision-making process in Washington. As a result, today, when it comes to basic issues of health and safety pertaining to people who use or otherwise come into contact with pesticides—and that's nearly all of us—Congress is more responsive to the interests of the chemical industry than it is to the broad public good.



# In Your Own Front Yard

**O**n July 20, 1985, Thomas Latimer, a petroleum engineer living in Dallas, went out to mow his lawn. Like millions of other homeowners, Latimer and his wife had worked hard to make their yard beautiful. It wasn't easy, since the lawn had been neglected by the previous owner. They dug out dead bushes and planted new shrubs. They put in new grass and plants. And they battled some of the common enemies of a healthy lawn: Bermuda mites, grub worms, and June bugs. Twice in the previous month, Latimer had sprayed the lawn with a pesticide made by Chevron-Ortho that contained diazinon, a poison developed by Nazi scientists during World War II. The nation's fifth-most popular lawn-care chemical, diazinon is found in hundreds of products, including such brand names as Spectracide, Bug-B-Gon, and GardenTox.

Halfway through that July day, Latimer got tired, his head began to hurt, and he felt dizzy and nauseated. He rested for the remainder of the day. The next morning he tried to finish the job, but the symptoms returned. This time, he also experienced impaired vision.

When his symptoms persisted for a week, Latimer's wife, a registered nurse, took her husband to see an internist she knew. The doctor ordered CAT scans, a spinal tap, and numerous other tests; all were negative. The doctor suggested that Latimer stop taking Tagamet, an antacid he had been prescribed. Later, the internist called to tell Latimer that one of the tests run—a toxicology screen—found that he had been poisoned. A specialist later identified the toxin: diazinon.

Every time Latimer ran his lawn mower over the grass, every time he bagged the grass clippings, diazinon invaded his body—through the air he

breathed and through the pores of his skin. Moreover, the Tagamet was interfering with some functions of his liver, which should have filtered the poison from his blood. The toxicologist diagnosed Latimer's condition as "enhanced organophosphate toxicity due to Tagamet." (Organophosphates are a class of chemicals that include diazinon.)

When Latimer first became ill, he had called Chevron-Ortho's emergency toll-free number to find out if the symptoms he was experiencing could be

**"My daughter has grown up knowing I can't read her a bedtime story because by evening I can't see to read the words in a children's book and don't have a voice to speak with," a victim of diazinon poisoning told a Senate subcommittee. "I have to use sign language to tell her I love her."**

related in any way to the pesticide he'd sprayed on his lawn. "I told the representative on the phone that I was taking the medication Tagamet and asked, 'Could this have resulted in an interaction poisoning?'" Latimer recalled in testimony to the Senate Environment and Public Works Subcommittee on Toxic Substances, Environmental Oversight, Research, and Development in May 1991. "The Chevron-Ortho representative said it was not possible to have a problem with diazinon if I was on Tagamet. The representative claimed to me that diazinon was so safe that I could drink an entire bottle and the only problem I would have is that I would be nauseated for a few days."

Latimer's dizziness, nausea, and impaired vision, however, weren't caused by drinking a bottle of diazinon. "From my education in petroleum engineering, I had enough knowledge of chemicals to be aware of potential dangers and handle them carefully," he testified. Nonetheless, he was poisoned.

Latimer suffered permanent damage from his exposure to diazinon. "I live every waking moment in constant, unrelenting head pain," he testified. "My eyesight damage has been verified by three neuro-ophthalmologists. My ability to read is limited to ten minutes at a time. . . . I suffer from brain seizures, panic and fear attacks both day and night, and nightmares\_\_\_I suffer a degree of physical retardation and motor-skill damage. I cannot run or swim. I have also suffered from viral growths on my vocal cords, which have required laser surgery three times. It is likely I will need vocal-cord surgery every year for the rest of my life. . . . I cannot yell or talk loudly. I must talk softly and on a limited basis. Many days, I have to be virtually silent. The frustration and anger level due to my voice being restricted is very high\_\_\_My daughter has grown up knowing I can't read her

a bedtime story because by evening I can't see to read the words in a children's book and don't have a voice to speak with. I have to use sign language to tell her I love her."<sup>1</sup>

Of the 36 pesticides most commonly used by Americans on their lawns, at least thirteen can cause cancer, fourteen can result in birth defects, 21 can damage the central nervous system, and fifteen can damage the liver or **kidneys**.<sup>2</sup> Yet of all of these, 24 have never been fully tested by the Environmental Protection Agency. Although the law mandating their review went into effect when the EPA was created in 1972, the process has been crawling at a snail's pace since then. To date, only twelve of the 36 pesticides have been tested thoroughly by the EPA,<sup>3</sup> and even that process is no guarantee of safety. This state of affairs led Democrat George Brown of California, the chairman of the House Agriculture Subcommittee on Department Operations, Research, and Foreign Agriculture, to declare in a 1987 hearing on the matter: "The inability of the federal government . . . to give informed answers about the health and safety of currently registered pesticides is both a national disgrace and an economic **disaster**."<sup>4</sup>

Americans generally assume that their lawmakers do everything possible to protect them from dangerous pesticides. Yet according to a survey conducted by the Pesticide Action Network of North America, seven pesticides that are used regularly in the United States have been banned in at least 25 other countries because of their health and environmental **risks**.<sup>5</sup>

The U.S. chemical industry argues that, when used properly, pesticides are safe. Nevertheless, like Thomas Latimer, at least 20,000 Americans get sick every year as a result of pesticide use, according to the EPA. Other estimates put the number at upwards of 300,000.<sup>6</sup> Research has also linked pesticides to higher rates of cancer among children, birth defects, and liver and kidney damage.

The EPA has spent more than 25 years studying the health effects of pesticides, but it will be another ten years before the agency completes its reviews. Meanwhile, chemicals such as diazinon and **2,4-D**—the most widely used herbicide in the United States<sup>7</sup>—that have never been adequately tested continue to be sold to consumers with little or no warning about their health risks. Americans apply about 74 million pounds of pesticides a year to everything from lawns and playgrounds to golf courses and **parks**.<sup>8</sup> What few of them know is that only 1 percent of the chemicals reaches its intended target: insects. The rest is left to contaminate soil, run into nearby streams and ponds, float into their lungs, or penetrate their **skin**.<sup>9</sup>

Even more disturbing is the fact that products that the EPA approves through its registration process may not actually be safe. "EPA registration is not a determination of safety," Phyllis Spaeth, an assistant attorney general for the state of New York, told a reporter for *The New York Times*. "It's a balancing act, a cost-benefit analysis. If there is a chemical needed for agriculture and it's the cheapest one, then the EPA says, 'Well, it's the only one out there, so we'll let them use it.'"<sup>10</sup> In other words, what the EPA considers suitable for a thousand acres of soybeans may not be okay for your child to roll around in every day.

In fact, the incidence of cancer in children under age fifteen has risen markedly in the last forty years—more than 8,000 cases are reported every year, making it the second leading cause of childhood death—and exposure to pesticides is suspected of being a key player in the trend.<sup>11</sup> In a 1995 study, researchers at the University of North Carolina examined hundreds of children with cancer, comparing their pesticide exposure levels with those of healthy children. The study concluded that a "strong association" existed between exposure to lawn chemicals and soft-tissue sarcomas—malignant tumors of connective tissue in the body. The data showed that, of the children studied, those whose parents used lawn chemicals were four times more likely to develop cancer than those whose parents did not.<sup>12</sup>

Children aren't the only ones whose cancer rates are climbing. From 1950 to 1991, the incidence of the disease, excluding lung cancer, among all Americans rose by more than 35 percent. Particularly noteworthy statistics concern cancers that develop in the body's fatty tissues, where synthetic chemicals such as pesticides are most likely to linger. In the past two decades, brain and breast cancer rates have risen by 25 percent and non-Hodgkin's lymphoma rates have tripled.<sup>13</sup> As ecologist Sandra Steingraber notes in her book *Living Downstream*: "In the last half of the twentieth century, cancers of the brain, liver, breast, and bone marrow have been on the rise. These are all human organs with high fat content. In the past half of the twentieth century the production of fat-soluble, synthetic chemicals has also been on the rise. Many are classified as known, probable, or possible carcinogens. We need to ask what connections might exist between these two trends."<sup>14</sup>

Meanwhile, as scientists examine such troublesome links and Americans continue to fall ill from poisonings, chemical manufacturers have been reaping enormous profits from the lax regulation of pesticides—racking up more than \$11 billion in U.S. sales in 1995 alone, the most recent year for which figures are available.<sup>15</sup> The industry has also spent millions of dollars lobbying

Congress to put federal pesticide regulators on a much tighter leash, and for the most part, it has succeeded.

The Center's investigation also shows that Capitol Hill lawmakers routinely dole out valuable favors to pesticide manufacturers in the form of tariff suspensions. Established by the Smoot-Hawley Tariff Act of 1930, tariffs are taxes assessed on the value of imported goods; the rates vary by country and chemical but are usually less than 10 percent. The tariffs are much bemoaned by pesticide manufacturers, which rely heavily on imported chemicals for their products. Luckily, though, their friends in Congress have been eager to ease the burden for them. In the past ten years, Capitol Hill lawmakers have introduced more than 150 bills on behalf of chemical companies to suspend or reduce tariffs on specific ingredients.<sup>16</sup>

From 1987 to 1993, for example, then-Senator John Danforth, a Republican from Missouri, introduced at least eleven bills to suspend or reduce tariffs on various chemicals used in pesticides. The direct beneficiaries of his legislative initiatives were Monsanto Company, American Cyanamid Company, and other members of the American Crop Protection Association. Monsanto wanted the tariff on triallate—an herbicide it uses almost exclusively—lifted, and Danforth complied. He introduced his Monsanto-friendly bill four times before it finally passed and became law. The cost to Monsanto and its top executives: a total of \$41,000 in campaign contributions to Danforth.

Then there's Representative Michael Castle, a Republican from Delaware, who, since taking office in 1993, has introduced at least eleven bills to eliminate various tariffs on imported chemicals used by DuPont and other pesticide manufacturers. "By temporarily suspending the imposition of duties," Castle said in introducing legislation concerning the tariff on triflurosulfuron-methyl, an herbicide ingredient, "this bill will help DuPont, a company located in Wilmington, Delaware, lower its cost of production and improve its competitiveness in global markets."<sup>17</sup> Castle has received more than \$14,000 in campaign contributions from top DuPont executives, including \$4,480 from John Krol, the company's chairman, and \$3,000 from Edgar Woolard, Jr., Krol's predecessor. Meanwhile, another Republican

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from Delaware, William Roth, Jr.—the chairman of the Senate Finance Committee, which has jurisdiction over tariff laws—has introduced at least fifteen tariff-suspension bills for DuPont and other Delaware-based companies.

"These are industry bills," an aide to the Senate Finance Committee told the Center. "They're generally introduced by request . . . and they pass pretty quickly once they come in." The ease with which chemical companies get Members of Congress to do their bidding stands in sharp contrast to the difficulty that health and public-interest groups have in getting similar attention. Pesticide companies need only ask for these favors, as evidenced by four

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bills recently introduced by Representative Ray LaHood, a Republican from Illinois, that would suspend tariffs on various chemicals used to manufacture corn herbicides at DuPont. The legislation will save DuPont around \$500,000 over the next several years, LaHood says. He told a reporter with Copley News Service that he introduced the bills because DuPont asked him to.<sup>18</sup>

Washington's weak hand in regulating pesticide manufacturers and their products dates back to 1947, when Congress passed the Federal Insecticide, Fungicide, and Rodenticide Act. The law required all pesticides to be registered with the Agriculture Department, but it didn't require tests for environmental impact or for chronic health effects, nor did it set any standards for pesticide residues in food. Its main purpose was to make

sure that pesticides lived up to their insect-killing claims.

That all changed in the late 1960s, when mounting public concern over the long-term consequences of pesticides pushed Congress to consider changes in FIFRA. Under a set of amendments passed in 1972, pesticide regulation became the domain of the newly created Environmental Protection Agency, and for the first time federal regulators were required to consider the environmental and long-term effects of a pesticide before it could be placed on the market. That mandate was also extended to 50,000 pesticide products registered before 1972 that had been inadequately tested. The EPA was given four years to review such pesticides and reregister them.<sup>16</sup>

At the same time, the chemical industry's lobbying efforts on Capitol Hill began to heat up, and manufacturers ultimately won a major concession that remains the law to this day: Before a pesticide could be **banned**, Congress required federal regulators to show that its risks outweighed its benefits to agribusiness.

Since then, the clout of the chemical manufacturers has grown to mammoth proportions. Besides the American Crop Protection Association, an umbrella group that includes most of the major pesticide makers, the manufacturers of pesticides for home and garden use have their own lobbying offshoot, which they've named Responsible Industry for a Sound Environment. RISE'S 36 member companies include **chemical-industry giants** Monsanto Corporation, E.I. du Pont de Nemours and Company, and Dow AgroSciences, as well as such smaller firms as Becker-Underwood, Inc., and Helena Chemical Company. All told, RISE and its member firms spent more than \$15 million in 1996 to employ **219 Washington lobbyists**,<sup>17</sup> including 22 former House staff members, 22 Senate staff members, nine former Executive Branch officials, seven former White House aides, six former Representatives, and three former **Senators**.<sup>18</sup> Among the heavyweights are Howard **Berman**, a former deputy director of the EPA's Criminal Enforcement Division, who is a registered lobbyist for **Novartis**; former Democratic Representative **Dennis Eckart** of Ohio, once a member of the Energy and Commerce Subcommittee on Health and Environment, who lobbies for Monsanto; and former Republican Senator **Steven Symms** of Idaho, who used to sit on the Environment and Public Works Subcommittee on Environmental Protection and who has lobbied for FMC Corporation.

Pesticide manufacturers have clearly had the upper hand against federal regulators since 1988, when Congress last amended FIFRA. At that time, lobbyists ensured that the legislation upheld the industry's right to sue the EPA whenever the agency tried to recall harmful pesticides from store shelves. In addition, the industry defeated provisions aimed at protecting groundwater (a 1995 survey by the Environmental Working Group of well water in 29 cities found **21** to be contaminated with pesticides classified as known or probable **carcinogens**<sup>19</sup>); limiting the export of banned pesticides (in 1991, U.S. chemical companies exported 96 tons of DDT<sup>20</sup>); and regulating inert ingredients in pesticides (inerts, often as dangerous as active ingredients, include twenty known or suspected carcinogens and nearly 200 hazardous air and water pollutants that aren't required to be listed on product **labels**<sup>21</sup>). From 1988 to 1995, more than 65 bills were introduced in Congress to tighten pesticide regulations. Not one of them **passed**.<sup>22</sup>

Meanwhile, over at the EPA, the **reregistration** of inadequately tested pesticides has dragged on, with the process itself becoming one of the agency's biggest, longest-running, and least forgivable failures. In 1978, after the EPA missed its deadline for the completion of reregistration, Congress instructed the agency to move "in the most expeditious manner **practicable**."<sup>23</sup> But the General Accounting Office, the investigative arm of Congress, reported that from 1978 to 1986 the EPA had re-evaluated only 3 percent of old pesticides. The slow pace of reregistration, investigators warned, had serious consequences for an unsuspecting public. "Pesticide labels provide no indication that the chemicals in pesticide products sold in supermarkets, garden-supply stores, etc., have not been assessed for chronic health risks," the GAO report concluded.<sup>24</sup>

Those warnings still apply today. Over the past nine years, the EPA has reregistered 171 groups of active ingredients but still has 210 left to **complete**.<sup>25</sup> At its current rate, the agency won't finish the job until 2008. Only eight of the 36 most commonly used lawn chemicals have been **reregistered**.<sup>26</sup> Meanwhile, manufacturers continue to sell millions of pounds of the stuff. The GAO concluded in 1993 that "until reregistration is completed, the safety of the eighteen [most highly used] pesticides will be **questionable**, while the approximately 2,100 lawn-care products containing them will continue in widespread use."<sup>27</sup>

In recent years, the EPA's review methods have also raised concerns. It is a federal crime for a manufacturer to claim that a pesticide is safe simply because it has been registered with the EPA. Agency reregistration is no guarantee of a pesticide's safety for two other reasons as well. First, the reregistration system is poorly designed to assess the harm that pesticides can actually inflict. "The EPA's system doesn't even try to look at real-world exposure," Jay Feldman, the executive director of the Washington-based National Coalition Against the Misuse of Pesticides, told the Center. "All these assumptions are taken out of animal and field studies that simply don't reflect everyday situations."<sup>28</sup> GAO investigators came to the same conclusion five years ago when they wrote, "EPA has not yet developed guidelines to assess the health effects of human exposure to pesticides after they are applied to **lawns**."<sup>29</sup>

Second, FIFRA is a risk-benefit statute, unlike the nation's air- and water-pollution laws, which require the EPA to consider only risk. Under FIFRA, dangerous pesticides can be approved if their benefits to agribusiness outweigh their risks. "We can and do register chemicals that have some potential for being oncogens based on laboratory study," John Moore, then the EPA's assistant administrator for pesticides and toxic substances, told the House **Agricul-**

ture Subcommittee on Department Operations, Research, and Foreign Agriculture when he testified on FIFRA in 1987.<sup>30</sup>

And although FIFRA applies to pesticides used for nonagricultural purposes, its risk-benefit analysis doesn't take into account the fact that most lawn chemicals are used largely for cosmetic purposes. As Robert Abrams, then the attorney general of New York state, put it in testimony before the Senate Environment and Public Works Subcommittee on Toxic Substances, Environmental Oversight, Research, and Development in 1991, "The risks these chemicals pose are not outweighed by the benefits of an aesthetically pleasing green lawn."<sup>31</sup>

Nowhere are the deficiencies of the reregistration process more glaring than in the case of the popular herbicide 2,4-Dichlorophenoxyacetic acid, commonly known as 2,4-D.

Developed by the U.S. military in the waning days of World War II, 2,4-D was later a major active ingredient in the 19 million gallons of Agent Orange that the United States poured down on the jungles of Vietnam.<sup>32</sup> Products containing 2,4-D have been linked to cancer; birth defects; genetic mutations; and damage to the liver, kidneys, and central nervous system.

The EPA has been reviewing 2,4-D for the past quarter-century and has several more years of testing to go.<sup>33</sup> Meanwhile, Americans continue to use about 21 millions pounds of it annually in such products as Weed-B-Gon, Raid Weed Killer, and Lawn-Keep. The review has taken so long largely because of questions about the chemical's cancer-causing effects—questions that are not likely to be cleared up once the EPA completes the chemical's reregistration. In the early 1990s, studies conducted by the National Cancer Institute linked 2,4-D to cases of non-Hodgkin's lymphoma, the types of lymph-node cancer that are not Hodgkin's disease.<sup>34</sup> The findings prompted the EPA to initiate a special review of 2,4-D as a possible carcinogen. Seven years have passed since that review began, and twelve studies have been published linking 2,4-D with higher rates of cancer,<sup>35</sup> including a 1991 study showing that dogs whose owners used pesticides including 2,4-D on their lawns four or more times a year were twice as likely to develop malignant lymphoma than dogs whose owners did not use pesticides.<sup>36</sup>

**Only 1 percent of chemicals reaches its intended target: insects. The rest is left to contaminate soil, run into nearby streams and ponds, float into your lungs, or penetrate your skin.**

But while the chemical's possible carcinogenic effects prompted the nation's largest lawn-treatment company, TrueGreen-Chemlawn, to stop using 2,4-D in 1986, they have not convinced federal regulators, who point to laboratory experiments that have failed to produce conclusive evidence that 2,4-D causes cancer. Laboratory studies carry more weight at the EPA because, epidemiological studies are more easily picked apart by the chemical industry's scientists and lawyers. "At EPA we can only go with what we conclusively or scientifically prove," Ben Chambliss, the EPA's chemical review manager for diazinon, told the Center. "The risk with [issuing] additional restrictions [on pesticides] is that we end up being sued by private industry. The way things work is we have to have information that can stand up in court with these guys."<sup>37</sup>

**Although there had been 903 diazinon-related human poisonings between its introduction in 1952 and 1980, alarm bells didn't go off at the EPA until the chemical started killing birds, in particular ducks and geese.**

But laboratory tests aren't always the best way to gauge the effects of real-world pesticide use. As in Thomas Latimer's case, pesticides that are nontoxic on their own can become poisonous when interacting with other chemicals. Scientists have reported, for example, that the insecticides malathion and EPN are fifty times more potent when used in combination with each other than when used separately.<sup>38</sup> When 2,4-D is combined with the herbicide pinloram, for instance, it has been shown to have lethal effects on farm animals in small doses, even though the two chemicals used separately are, by comparison, less toxic.<sup>39</sup> "Science just can't handle all those interactions," Linda Werrell, the EPA's chemical review manager for 2,4-D, told the Center.<sup>40</sup>

"The permutations [of chemical combinations] are in the millions," Jack Housenger, the associate director of the EPA's Special Review and Reregistration Division, told the Center. "If someone can come up with a test for them, I'd like to hear it."<sup>41</sup>

Without conclusive evidence that 2,4-D causes cancer in laboratory animals, the EPA is likely to reregister it in a few years, and the manufacturers of 2,4-D are doing everything in their power to ensure that reregistration goes forward. Four of the chemical's biggest manufacturers—Dow AgroSciences, Rhône-Poulenc Rorer, NuFarm U.S.A., and AGRO-GOR—have formed an ad hoc group called Industry Task Force II on 2,4-D Research Data to pool resources and jointly present scientific data to the EPA.<sup>42</sup> So far, the group has spent \$34 million on studies and surveys to meet the EPA's requirements<sup>43</sup> while ponying up \$2.3 million in

contributions to **politicians**.<sup>44</sup> In 1996 and 1997, the four companies also spent at least \$2.5 million to lobby Congress on regulatory **issues**.<sup>45</sup> Despite persistent questions about 2,4-D's long-term health effects, Donald Page, the executive director of the industry task force, recently told the Center that 2,4-D **reregistration** "is in the **bag**."<sup>46</sup>

How have the nation's pesticide manufacturers managed to keep federal regulators on the defensive? Much of the answer lies in FIFRA itself, which the industry has turned into one of its most effective weapons.

The EPA has the power to restrict the use of a highly toxic pesticide or to recall it completely. In fact, the agency issued an emergency cancellation of **ethylene dibromide**, a pesticide, in 1984. "We knew from a special review that this thing was definitely a **carcinogen**," Jeff Kempter, a registration specialist at the EPA, told the Center. "Then we received information that it was turning up in school lunches, in bags of flour, and in water wells all over the place. **Boom**—we stopped all use and forced a **recall**."<sup>47</sup>

But EPA officials have become so afraid of provoking chemical manufacturers—and their **attorneys**—that they're extremely reluctant to resort to such emergency cancellations. Even when deciding to pull ethylene dibromide, Kempter said, officials of the agency "needed evidence of very, very serious **danger**."<sup>48</sup>

Federal regulators have been scarred by their experience in the late 1980s, when they took on the industry over **diazinon**. Although there had been 903 **diazinon-related** human poisonings between its introduction in 1952 and 1980, according to the EPA's Pesticide Incident Monitoring System (which has since been eliminated by budget cuts), alarm bells didn't go off at the agency until the chemical started killing birds, in particular ducks and geese. Nearly 100 reports of multiple bird-kills, involving 23 species, were sent to the EPA, including a 1985 incident in **New York** that left more than 700 Atlantic brant dead on a single field.<sup>49</sup> These massive poisonings and the public outrage that followed led the EPA to initiate a special review of diazinon in the winter of 1986. Six months later, the EPA concluded that diazinon presented a particular hazard to the large flocks of migratory birds that landed on golf courses and sod farms. Officials of the agency issued a "notice of intent to cancel" the pesticide and began the process of banning it. But they didn't get far, thanks to a little-known provision of FIFRA.

Under FIFRA, every chemical manufacturer is guaranteed a "right of appeal," and one of them, **Ciba-Geigy**, took full advantage of the provision in

challenging the impending EPA ban. While Ciba-Geigy's suit against the EPA dragged on in court, the company scrambled to find ways of keeping golf courses dewy with **diazinon**. "We think the ban on **diazinon** was unnecessary and an overreaction to a few incidents," Bill Liles, the director of turf and ornamental products for Ciba-Geigy, told reporters at the time. "Diazinon did in fact kill some ducks **and** did in fact kill some geese. But we did research to show that you could use this product in a manner that would be safe to the wildfowl if it was used **correctly**."<sup>50</sup>

In an effort to prove its point, the company came up with new application instructions and tested them out. The results, however, didn't bolster the company's claims. In one experiment in Washington state, the chemical killed 85 more **birds**.<sup>51</sup> The extreme **toxicity** that diazinon presents to wildlife prompted the EPA in 1988 to restrict all outdoor uses of the product to certified applicators. But in 1989, bowing to industry demands, the EPA rescinded this ruling and once again allowed the product to be sold to homeowners without **restrictions**.<sup>52</sup> Finally, in July 1990, after a four-year legal battle, the EPA issued its final order banning the use of diazinon on golf courses and sod **farms**.<sup>53</sup>

Without broader authority, the EPA has been relegated to a largely advisory role. As one EPA official told the Center, restricting the use of a pesticide such as diazinon is "very, very difficult" for the agency. The result is that the EPA "must negotiate with a company, because it is just so hard and the chemical companies just fight it so much."<sup>54</sup>

Although the agency partially prevailed over Ciba-Geigy, it lost the war against the industry when amendments to revise FIFRA were proposed in 1994. On Capitol Hill, chemical manufacturers managed to retain their "right of appeal," thus ensuring their ability to challenge agency orders for years to come. The industry's lobbyists defeated a proposed amendment that would have removed "certain provisions requiring hearings" and another that would have allowed the EPA to restrict or eliminate a product "if credible scientific evidence indicates that use of the pesticide is reasonably likely to pose a significant risk to humans or the **environment**."<sup>55</sup> Instead, they succeeded in retaining the existing weaker standard, which let the EPA restrict or cancel a pesticide only if the pesticide posed "unreasonable risk to humans or the environment." The EPA could not be trusted with such "**extoraordinary** new authority," representatives of the chemical industry testified at the **time**,<sup>56</sup> because giving the EPA final say over pesticide use would lead to a "witch hunt" by **regulators**.<sup>57</sup> Today, Allen James, RISE'S **exec-**

utive director, still calls the right of appeal "essential to protect against de facto EPA rule."<sup>58</sup>

Despite the EPA's ban of diazinon on golf courses and sod farms, golf courses remain virtual poison ponds. A survey conducted in 1991 by New York state's Environmental Protection Bureau found that golf courses regularly applied up to seven times as much pesticides per acre as did farms. The report also found that six of the 49 pesticides sprayed on fairways were classified by the EPA as possible or probable carcinogens, many of them easily leaching into groundwater.<sup>59</sup> The high level of pesticide use on golf courses alone could explain why Long Island, which has virtually no agricultural areas but hundreds of golf courses, has such severely polluted groundwater.

Greenskeepers have also been found to suffer from higher rates of brain cancer and non-Hodgkin's lymphoma, two cancers most commonly associated with long-term pesticide exposure, according to a 1994 University of Iowa report financed by the Golf Course Superintendents Association of America.<sup>60</sup>

No one knows the dangers of pesticide-coated golf courses better than an eleven-year-old Canadian boy named Jean-Dominic Lévesque-René. As a toddler, Jean-Dominic twice fell ill after his yard was treated with pesticides, despite the fact that none was sprayed directly on him. When he became violently sick a third time, he was rushed to the emergency room with a nosebleed so profuse that a transfusion was needed to abate it. Doctors speculated that the boy had fallen victim to the chemicals not only because of their use in his yard but also because of long-term exposure to the pesticides used on four golf courses near his home outside Montreal. Just a few years later, Jean-Dominic was diagnosed with non-Hodgkin's lymphoma. Since then, he has undergone repeated chemotherapy sessions in an attempt to defeat the disease. Meanwhile, other children in his neighborhood have continued to be diagnosed with rare cases of childhood cancer—eighteen in the last two years, including a three-month-old baby.<sup>61</sup>

**EPA officials are not convinced that the health and environmental risks of diazinon outweigh its benefits to millions of homeowners.**

**"The question is, okay, diazinon kills birds—is that a big enough deal for it to be canceled?"**

**Jack Housenger, the associate director of the EPA's Special Review and Reregistration Division, told the Center.**

Disturbed by Jean-Dominic's story, Canadian activists have been working to ban the use of pesticides near neighborhoods such as **Ile Bizard**, where Jean-Dominic lived.<sup>62</sup> In the United States, however, efforts to establish a system that would warn golfers of the risks posed by heavy pesticide use has met with stiff resistance from industry groups that fear frightening away clientele. Nevertheless, seventeen states have passed laws to protect the public by requiring golf courses to post notices after pesticide **applications**.<sup>63</sup> Instead of responding in kind, however, Congress has actually attempted to restrict the power of local governments to impose these and other strict regulations on pesticides. In 1991, a bill that would have prohibited local governments from "imposing or continuing any requirement regarding pesticides or **devices**"<sup>64</sup> won the **cosponsorship** of more than a half-dozen Senators who'd each taken in hundreds of thousands of dollars in campaign contributions from pesticide-industry interests. Heading the list: Republican Mitch **McConnell** of Kentucky (\$307,048), Republican Christopher Bond of Missouri (\$297,961), Republican Trent Lott of Mississippi (**\$291,107**), Republican Dan Coats of Indiana (\$265,186), Republican Connie Mack of Florida (\$257,326), Republican Larry Craig of Idaho (\$241,399), Republican Thad **Cochran** of Mississippi (\$230,172), and Republican Robert Dole of Kansas (**\$204,981**).<sup>65</sup>

Just as EPA intervention hasn't made golf courses safe, the limited ban on diazinon hasn't stopped the substance from killing. Any homeowner can still buy diazinon products at the grocery store and spray them on his or her lawn. Americans use about 8 million pounds of diazinon a year.<sup>66</sup>

For several years, the U.S. Fish and Wildlife Service and the Rachel Carson Council, a clearinghouse and library devoted to pesticide-related issues, have been urging the EPA to ban diazinon completely. "Within the past two years alone, the [fish and wildlife] service has documented **diazinon-related** bird **die-offs** in locations including Virginia, North Carolina, Illinois, **Indiana**, and Idaho," Michael Spear, the U.S. Fish and Wildlife Service's assistant director of ecological services, wrote in a letter to the director of the EPA's Office of Pesticide Programs on July 8, 1993. "The investigations of these die-offs revealed that the kills occurred even when diazinon was used properly. **Diazinon's** high **toxicity** and exposure potential indicate that many if not all uses of diazinon cause significant adverse effects in non-target **organisms**."<sup>67</sup>

This was Spear's second letter to the EPA. In response, the agency assured him that it would take "appropriate action." To date, none has been **taken**.<sup>68</sup>

At the **EPA**, officials are not convinced that the health and environmental risks of diazinon outweigh its benefits to millions of homeowners. "The ques-

tion is, okay, diazinon kills birds—is that a big enough deal for it to be canceled?" Jack Housenger, the associate director of the EPA's Special Review and Reregistration Division, told the Center.<sup>69</sup>

But Diana Post, a veterinarian and the executive director of the Rachel Carson Council, questions whether a risk-benefit analysis even applies. "How do you calculate the 'value' of fish and birds?" she said in an interview with the Center. "How do you measure what they are worth?" Post also doubts whether the EPA has accurately assessed diazinon's continued risks: "There have been so many poisonings when diazinon has been applied by a trained professional. Imagine what damage homeowners can do."<sup>70</sup>

In an interview with the Center, Allen James, RISE'S executive director, conceded that homeowners are often at a disadvantage when it comes to applying pesticides. "When consumers buy a product," he said, "they are not as well prepared to handle those chemicals as professionals are."<sup>71</sup>

The stance of the chemical industry has always been that if a chemical is applied according to label directions, it will not be a threat to humans or the environment. The speciousness of this argument was revealed in a 1997 survey by the New Mexico Agriculture Department of commercial pesticide applicators operating in the urban areas of the state. The researchers found that a third of the pesticide applications they observed were done improperly and in violation of established regulations.<sup>72</sup> If this is the rate for commercial applicators, who are presumably trained in application procedures, what must it be for the average homeowner?

Ask Thomas Latimer, who inadvertently discovered that manufacturers also packed diazinon's pesticidal punch into fertilizer products. "Independent research has shown that almost every brand and type of fertilizer we found available at nurseries, grocery stores, and lawn shops contains diazinon," Latimer testified in 1991. "The packaging does not reflect the word 'diazinon.' Instead it shows diazinon by its 47-letter chemical name. . . . It is very difficult to find a fertilizer on the market to the public without diazinon in it."<sup>73</sup>

Even though diazinon ruined his life, Latimer, in his testimony to Congress, didn't advocate its outright ban. Instead, he asked the manufacturers of pesticides—and of potentially reactive Pharmaceuticals such as Tagamet—to label their products adequately. "I am simply requesting that the corporations and government agencies work to get the labelings correct and understandable to the general public," he told the subcommittee.<sup>74</sup> A bill proposed by Democratic Senators Harry Reid of Nevada and Joseph Lieberman of Connecticut would have fallen far short of the labeling that might have prevented Latimer's poi-

soning, but even that bill was too inconvenient for the chemical manufacturers, who fought it and won.

Ironically, labeling has become one of the EPA's main tools for reducing the health and environmental risks of pesticides. If, during its review of an older pesticide, the agency discovers that the chemical is highly toxic, it will first change the product's application instructions. If changing the label doesn't reduce the product's risks, the agency will then move to restrict the product's use. But because the EPA is generally reluctant to restrict or recall dangerous pesticides, the agency has come to rely on label changes, sometimes with near-ludicrous results.

Pick up any insecticide that lists diazinon as an active ingredient and you're likely to see a label with fine print that reads: "This pesticide is highly toxic to birds, fish, and other wildlife. Birds, especially waterfowl feeding or drinking on treated areas, may be killed. Because of the migratory habits of certain Atlantic coast waterfowl, do not apply these products to lawns in Nassau County, New York, between November 1 and May 20. Keep out of lakes, streams, ponds, tidal marshes, and estuaries. Do not apply directly to water or wetlands (swamps, bogs, marshes, and potholes). Runoff may be hazardous to aquatic organisms in neighboring areas. Shrimp and crab may be killed at application rates recommended on this label. Do not apply where shrimp, crab, and other aquatic life are important resources. Do not contaminate water by cleaning of equipment or disposal of equipment washwaters."

"If you look at a label, it's highly unrealistic. It doesn't take real-world use into account—drift, combination of chemicals, inerts," Jay Feldman of the National Coalition Against the Misuse of Pesticides told the Center. "Risk mitigation at EPA is completely theoretical."<sup>75</sup>

Yet, cowed by the political power of the pesticide industry and hamstrung by regulations written for the benefit of manufacturers, it's the most Congress and the EPA are willing to do to protect your health.



# See No Evil

• Joshua Herb came into the world a healthy, happy baby. When his parents, Vicki and Glen Herb, brought him home, they set him up in crib by a window in their house in Charleston, West Virginia.

But soon Joshua started losing his reflexes and acting as though his stomach hurt. "Now we know it was because he couldn't breathe," his mother explained in an interview with the Center.<sup>1</sup> In addition, he was unable to keep food down. When the Herbs took Joshua to the doctor, they learned that his diaphragm had stopped working properly so that when he breathed, his lungs moved out of sync with each other.

The Herbs consulted several other doctors, all of whom were baffled. "One of them said he had a virus; one said he had a milk allergy," Vicki Herb told the Center. Others made such vague diagnoses as "failing to thrive" and "spinal muscular atrophy," but none of these fit the boy's history or symptoms.

The Herbs had their own theory: They suspected that their son had been poisoned by pesticides.

Once a month, the Herbs had a local pest-control company send someone to their house to spray for ants, roaches, and other bugs. One day shortly after they brought Joshua home from the hospital, the exterminator paid them a visit. He followed his usual routine, coating baseboards and windowsills throughout the house with a pesticide called Dursban—including, it turned out, the bedroom where the newborn lay sleeping.

"Josh's crib was right below the windowsill," Vicki Herb told the Center. "[The exterminator] wasn't aware that Josh was in the room when he did it. By the time he sprayed the windowsill, it was too late."

The active ingredient in Dursban is a chemical called chlorpyrifos, which is one of the most common pesticides used by pest-control companies.<sup>2</sup> Every

year in the United States, there are thousands of cases of chlorpyrifos poisoning, symptoms of which include nausea, muscle weakness, loss of reflexes, vomiting, abdominal cramping, and diarrhea.<sup>3</sup>

The Herbs took Joshua to specialists at Children's Hospital in Columbus, Ohio, in the hope that their suspicions might be confirmed, but although doctors there admitted the possibility of chlorpyrifos poisoning, they were not convinced. "Josh had blisters all over him," Vicki Herb said. "After we came

**A study by researchers at Rutgers University found that a three-to-six-year-old child can absorb or ingest a total of 208 micrograms of the pesticide chlorpyrifos per kilogram of his weight a day.**

back from Columbus Children's, he also started excreting a yellow fluid through the pores of his skin. There were so many things that pointed to a really unnatural thing happening to him."

In 1990, Josh's parents decided to sue Dow Chemical Company, the parent company of DowElanco, which made Dursban. DowElanco dug its heels in early, vigorously denying that chlorpyrifos had harmed Joshua. Instead, the company insisted that the boy had spinal muscular atrophy, a congenital condition in which spinal-cord degeneration causes muscle weakness and wasting.<sup>4</sup> "They were very defensive," Vicki Herb said of the company. "I guess they thought that if they dragged this out long enough, either Josh would die . . . or I would just give up."

But the Herbs stood their ground, and medical researchers at Duke University later found evidence to back up their contention that Joshua had been poisoned. The researchers, commissioned by Herb family attorney Stuart Calwell, found that chlorpyrifos became much more toxic when combined with other substances.<sup>5</sup> "We think this helped explain why this child was so grievously injured in an environment where there was no acute exposure," Calwell told the Center.

The study helped force DowElanco to the settlement table, according to Calwell. The money the family won from the pesticide maker in 1990 continues to go to their son's care, which costs around \$30,000 a month, Calwell said.

Today, at ten years old—an age when most kids can swing a bat or kick a soccer ball—Joshua is confined to his home with 24-hour nursing care and must use an oxygen system to breathe. Since he was poisoned as an infant, Joshua has experienced no muscle growth, no nerve development, and no bone growth. "He's just kind of gelled," his mother told the Center.

"Joshua Herb was—is—a young quadriplegic, and we recognized the tragedy involved in his personal circumstances," Garry Hamlin, a spokesman

for Dow AgroSciences, told the Center.<sup>6</sup> (DowElanco changed its name in January 1998 when Dow Chemical Company bought out Eli Lilly & Company's share in the joint venture.)<sup>7</sup> Dow decided to settle the case, Hamlin said, because it recognized that "we had a child who was in a situation of tremendous suffering and parents who were doing their level best to deal with that circumstance, and a case before a jury involving a large company would be unlikely to be resolved outside the boundaries of personal sympathies."

Although he is a bright and talkative boy who loves to play with his computer, Joshua's future is grim.

"He will die," Vicki Herb said. "His internal organs have been working somewhat, and they are starting to deteriorate. His lungs are calcifying, and his heart has been fluctuating; it's getting worn out, getting tired. It can happen anytime."

Joshua's condition is the result of many failures: The failure of the pest-control operator to take all necessary precautions, the failure of the chemical manufacturer to tell federal regulators everything it knew about its product's harmful effects, and the failure of federal regulators to make sure the pesticides it approves aren't poisonous to children. Much of the blame also rests with elected officials who have put the interests of agribusiness and pesticide manufacturers ahead of the interests of families like the Herbs.

"These farmers and chemical manufacturers have totally separate interests here," Vicki Herb told the Center. "They're not looking out for health concerns; they're looking out for their own monetary concerns."

And pesticides are enormously profitable. In 1995, Americans spent \$11.3 billion on them.<sup>8</sup> One hundred eighteen companies produce millions of pounds of pesticides each year, with the help of 6,000 to 10,000 workers. And 35,000 to 40,000 commercial pest-control firms enlist 384,000 certified applicators to spray the chemicals inside homes, schools, factories, and offices.<sup>9</sup>

Whenever the possibility of tougher regulation has loomed, the chemical industry has done everything in its power to stop it. Chemical companies have spent tens of millions to lobby Congress and send lawmakers and Capitol Hill staff on vacations that masquerade as "fact-finding" trips or to deliver speeches to their conferences. In return, the industry's allies on Capitol Hill have been instrumental in keeping federal regulators at bay. As a result, dangerous pesticides are, quite literally, in our homes and in our bodies.

There's no escaping chlorpyrifos. Americans use 11 million to 17 million pounds of it a year. On any given day, you can find products containing it in 20

million U.S. households. It's the main ingredient in Raid, d-Con, Dexol, Enforcer, Ortho, and more than 900 other products. It may even be in the shampoo you use on your dog. In 1993, DowElanco, a joint venture of Dow Chemical, Inc., and Eli Lilly & Company, sold 27 million pounds of chlorpyrifos worldwide under its commercial name, Dursban.<sup>10</sup>

Once sprayed, chlorpyrifos can cling to carpets, countertops, furniture, and toys; envelop our children and our pets; lace the food we eat; and pass through our skin. Children are particularly susceptible to it. A study by researchers at Rutgers University found that a three-to-six-year-old child can absorb or ingest a total of 208 micrograms of chlorpyrifos per kilogram of his weight a day.<sup>11</sup> "Just by virtue of their smaller size and the fact that a lot of them are crawling, children are going to have more surface contact," Dr. Alan Woolf, the director of the Massachusetts Poison Control System, which is affiliated with Boston Children's Hospital, told the Center.<sup>12</sup>

And children aren't the only ones at risk. In a 1995 study, researchers at the Centers for Disease Control and Prevention measured the residues of twelve pesticides in 1,000 adult urine samples taken from the National Health and Nutrition Examination Survey (1988-94). Chlorpyrifos was detected in 82 percent of the samples. When researchers compared data for concentrations in urine from an earlier NHANES (1976-80), they found a fivefold increase in the pesticide residue. "We believe our results are more likely due to an increase in the use of chlorpyrifos in the United States and a corresponding increase in the exposure of our population to this pesticide," the report read.<sup>13</sup> (The most prevalent pesticide found was 2,5-dichlorophenol, or DCB, which is used throughout the world in toilet deodorizers and moth repellent. Researchers found DCB in 98 percent of their sample population.)

Chlorpyrifos has even turned up in Cheerios. In June 1994, General Mills, the maker of the popular breakfast cereal, disclosed that one of its contractors, Y. George Roggy, had sprayed Dursban on imported oats headed for storage. Roggy, a licensed master fumigator who had taught pest control at the University of Minnesota, substituted Dursban for Reldan 4E, an EPA-registered pesticide, because Dursban was less expensive,<sup>14</sup> even though DowElanco had never registered Dursban for use on food ingredients. By using the cheaper, unapproved pesticide, Roggy was allegedly able to pocket \$85,000. In the end, the company couldn't say how many products had been tainted. Roggy was later convicted of intentional food alteration and was sentenced to five years in prison.

Even though it was illegal for General Mills to be selling oats and oat products with detectable Dursban residue, the Food and Drug Administration

assured consumers that the cereal was still safe. General Mills sold 110 million boxes of **Dursban-laced** oat cereal and tried to get federal regulators to allow them to sell 55 million more as animal feed. However, the company eventually abandoned its efforts, and the additional boxes were destroyed.

During the thirty years since the federal government first approved **Dursban**, regulators have rarely taken a close look at the effects of long-term pesticide exposure on adults, children, or the environment. Even when presented with cases of gross negligence on the part of pesticide manufacturers, they've failed to stand up to the industry and put the safety of the public first.

That's what happened in August 1995, when the EPA discovered that for ten years DowElanco had been hiding from federal regulators no fewer than 302 lawsuits and other claims for money damages alleging **Dursban poisoning**.<sup>14</sup> Among the cases kept under wraps was one from Charleston, West Virginia, involving an infant named Joshua Herb. The EPA's response was to give DowElanco a slap on the wrist in the form of an \$876,000 fine.<sup>16</sup>

Explaining the situation to the Center, Dow Agro-Sciences spokesman Hamlin said that after conducting an internal audit of EPA requirements regarding consumer **complaints**, the company decided to inform the agency about past lawsuits. "It wasn't clear to us [before] that the EPA wanted to receive that sort of information," Hamlin said. ". . . It was not our impression that other registrants had been supplying this information, but we did provide it to the agency. The agency judged that it was late, and we resolved the matter with a negotiated settlement."

"Although the penalty is relatively insignificant to a company as large as DowElanco—and for a profitable product such as **Dursban**—it should convey the message that EPA expects **claims-related** incidents to be reported," James Handley, an attorney in the EPA's Toxics and Pesticides Enforcement Division, told reporters at the **time**.<sup>17</sup>

Hamlin said that the suits filed against Dow involved **multiple-chemical** sensitivity disorder. "In the majority of the cases we've had to adjudicate, those cases have either been resolved without any payment of dollars, been resolved for very small amounts, or simply been dropped by the plaintiffs," he told the Center.

**In August 1995, the EPA discovered that for ten years the pesticide manufacturer DowElanco had been hiding from federal regulators no fewer than 302 lawsuits alleging Dursban poisoning. The EPA's response was to give DowElanco a slap on the wrist in the form of an \$876,000 fine.**

Although the EPA declined to provide the Center for Public Integrity with copies of the documents that DowElanco submitted to the agency in connection with the settlement, the Center obtained a set of the materials.<sup>18</sup>

In most respects, they show how little—rather than how much—pesticide manufacturers tell the federal government in reporting adverse effects arising from the use of their products. In its submission to the EPA, for example, DowElanco noted that it had "excluded incidents arising out of pesticide misuse or exposure scenarios which do not allow a realistic estimate of exposure."

**Because DowElanco failed to tell all it knew about Dursban for ten years, during that time the EPA did not commission studies on the pesticide's long term health effects. Scientists didn't bother to investigate on their own, either. No one knew there was a need to.**

The pesticide industry likes to brand studies with which it disagrees as "junk science," yet the DowElanco submission includes wholly unsubstantiated assertions that clearly fall into that category. Consider, for example the following passage:

"[T]he clinical manifestations due to mild overexposure to organophosphate insecticides are very similar to the clinical manifestation of many other common conditions including flu or anxiety. Because of its wide use and conspicuous odor, a large number of individuals will be aware that chlorpyrifos has been applied and might be concerned about their exposure obviously, anyone who is concerned they may have been overexposed to a pesticide would also be anxious. Anxiety is a common disorder estimated to occur in 3 percent of the U.S. population and individuals with these disorders would present clinical man-

ifestations that could easily be **misdiagnosed** as organophosphate poisoning. Therefore, any diagnosis of 'mild organophosphate poisoning' is dubious unless there is either objective evidence that the exposure was sufficient to cause the symptoms or there is sufficient depression in plasma **and/or** red blood cell **cholinesterase** to confirm the diagnosis."

Similarly, a section in the DowElanco submission having to do with the toxicology of chlorpyrifos dismisses certain research without so much as a shred of supporting evidence. After referencing a 1992 study as "the only mammalian developmental toxicity study demonstrating a potential **teratogenic** response following chlorpyrifos exposure," for example, the DowElanco submission goes on to say: "This study . . . was poorly conducted and suffers from critical design, **methodologic** and reporting deficiencies, rendering the results **uninterpretable** and unsuitable for risk assessment. Due to the significant

deficiencies and questionable scientific procedures used by these investigators, the results and conclusions drawn from this study have no validity."

"The large chemical companies and pesticide manufacturers can pretty much do anything they want," Richard Lipsey, a former associate professor of toxicology at the University of Florida who has been a pesticide testimony expert in toxic-tort cases for 22 years, told the Center. "When it comes to litigation and lawsuits, they generally drag things out three or four years until the plaintiffs are widows or orphans."<sup>19</sup>

As part of its agreement with the EPA, Dow convened a panel of scientists to examine the health effects of chlorpyrifos. The panel concluded in July 1997 that "the available scientific evidence provides no basis for concern that [chlorpyrifos] causes human-health adverse effects other than its known cholinergic effects associated with acute poisonings."<sup>20</sup> A minority of the panel recommended that studies be conducted on highly exposed populations such as production workers, and Dow agreed to support such research. But the occupational study will examine only workers, not people in their homes, where there is no protective equipment and where the chemical can linger in the air and on objects.

Since the settlement, Dow has continued to be served with suits every year regarding its product, according to Hamlin. "Chlorpyrifos or Dursban is used in 20 million homes on an annual basis," he said. "If you assume the population of this country is 260 million people . . . it's in excess of 10 percent of the homes in the country, and you would not expect a product that widely used not to have some litigation every year."

Nonetheless, the price of DowElanco's decade-long inaction remains enormous. Because the company failed to tell all it knew about Dursban and its effects on people, during that time the EPA did not commission studies on the pesticide's long-term health effects. Scientists didn't bother to investigate on their own, either. No one knew there was a need to.

Withholding lawsuits from the EPA is not the only thing Dow did to keep the truth about Dursban and its harmful effects from the public. The Center has found that the company also may have withheld scientific results from in-house studies showing that Dursban had a propensity to affect blood-cell levels in certain animals.

In 1987, Eugene and Mary Lou Romah sued Dow Chemical Company, charging that the routine spraying of Dursban in Eugene Romah's bar in Pittsburgh between 1981 and 1986 had made Romah seriously ill. Romah claims that Dursban caused him to contract aplastic anemia, a sometimes fatal bone-

marrow disease that prevents the body from producing the cellular structure for blood. The **Romahs** also sued Hygienic Sanitation Company, the pest-control operator that had applied the pesticide.

The case has dragged on for more than ten years, but in 1993 Dow revealed to the Romahs and their attorneys several internal studies that linked Dursban to blood-cell depression in male rats, a sign of aplastic anemia.

"In 1964, [Dow] performed tests on male and female rats, and they got suspect results in males rats, showing a susceptibility to aplastic anemia," Thomas **Castello**, the **Romahs'** attorney, told the Center.<sup>21</sup> "When they discovered these results, they quit testing the male rats."

Among the other Dow studies, spanning from 1971 to 1988, the Romahs found one, conducted in 1972, in which Dow had tested the effects of Dursban on prison inmates. That study, Castello said, found significant blood-cell depression in humans.

In an interview with the Center, **Hamlin** maintained that Dursban had been extensively studied and tested. "I don't think many people would be very impressed by studies thirty years old," he said.

Did Dow hide certain research about the adverse effects of its product? According to **Castello**, in the 1964 study, only the data on the female rats was presented to the EPA. "The whole problem, to me, is that EPA gets information from the manufacturer of the product," Castello told the Center. "It makes sense that they protect their product and give only the good results."

The **Romahs'** claim that Dow failed to warn them of the link between Dursban and aplastic anemia was struck down by a lower court because it might have resulted in changing the warning label on the product—an action that, according to the terms of the Federal Insecticide, Fungicide, and Rodenticide Act, can be undertaken by only the EPA or Congress; state law cannot supercede federal law. This "pre-emption" clause in FIFRA in essence protects pesticide manufacturers from being sued for failing to warn people about unforeseen or undetermined harmful effects of the product, because any state ruling in favor of the plaintiffs would result in a label change. The Romahs are proceeding with their case on the grounds that Dow withheld information from the EPA and that the FIFRA pre-emption should not apply with regard to punitive **damages**.<sup>22</sup>

When asked by the Center about the studies the Romahs had found and any possible link between Dursban and aplastic anemia, Hamlin declined to comment, saying only, "We deny the plaintiffs' allegations in the **Romah** lawsuit, we will continue to contest those claims vigorously, and we expect to be fully vindicated when the case has been **concluded**."<sup>23</sup>

In January 1997, the EPA released its first major study of Dursban's active ingredient. The conclusion: Chlorpyrifos is one of the leading causes of insecticide poisoning. Using data collected by the American Association of Poison Control Centers, researchers found that chlorpyrifos was responsible for nearly 3,000 acute poisoning incidents a year.<sup>24</sup> Pest-control professionals were at greatest risk of being poisoned because of their exposure to chlorpyrifos in high concentrations. Although carelessness was found to be the most common reason for on-the-job poisonings, the results of the study suggested that DowElanco had misled exterminators about the risks associated with Dursban.<sup>25</sup>

Dow blasted the report. "We felt that the review was not an accurate reflection of the safety of the product," Hamlin told the Center. "It was a review of anecdotal information, people who would call into EPA or poison-control centers and ask for information."

Still, DowElanco made some minor concessions to the EPA. "[DowElanco] came in and voluntarily agreed to negotiate a few things," the EPA's Jerome Blondell, one of the authors of the report, told the Center.<sup>26</sup> The company promised to come up with clearer warning labels for its products so that consumers would know not to spray Dursban on furniture or toys.

But according to Blondell, most of the plan hammered out between the EPA and the pesticide maker "had to do with eliminating certain uses inside the home that we considered hazardous [and] that DowElanco considered to be not important to them or supplanted by new products coming onto the market." In other words, the company agreed to eliminate Dursban from foggers, flea sprays, and shampoos, all products in which the company was phasing out the chemical anyway. In return for signing the agreement, the EPA allowed DowElanco to keep all existing Dursban products on store shelves while the agency would notify the public.

But the EPA dropped the ball. Two months after the deal with the EPA had been closed, most pest-control companies and garden stores—not to mention consumers—still hadn't heard about the new safety procedures.<sup>27</sup>

Behind the scenes, the company threatened to back out of the agreement if the EPA went public with the fact that Dursban could make people sick. John

**Despite growing evidence of pesticides' hazards, in 1987 the EPA tried to replace existing zero-risk standard for pesticides processed roads with a weaker "negligible risk" standard, arguing that the zero-risk standard had become outdated.**

Hagaman, DowElanco's president, warned the EPA in a letter that the new limits on Dursban—which was, after all, registered with the EPA—should not be portrayed as "capable of causing human injury."

The EPA caved under the pressure. "We can't just throw everything down and work on this," Al Heier, a spokesman for the EPA's pesticide unit, told *The Atlanta Journal-Constitution* at the time. "It's not that kind of emergency."<sup>28</sup> Agency officials waited until June 1997 to tell the public about the dangers of Dursban, more than a year after they fined DowElanco for violating federal pesticide regulations.

**Political action committees formed by agribusiness, pesticide companies, and the food industry have doled out \$9.3 million in campaign contributions to House members since 1992. Almost \$7 million of that went to cosponsors of the Food Quality Protection Act, which swept away the tough standard for pesticide residue.**

The fact that federal regulators hadn't put up much of a fight against a pesticide like Dursban is merely a reflection of what has been happening on Capitol Hill between lawmakers and the giant chemical companies.

In 1958 Congress passed the Delaney Clause as part of the Food, Drug, and Cosmetic Act. Named after its sponsor, then-Representative James Delaney, a Democrat from New York whose wife had died of cancer, the clause simply stated that no processed food could contain an additive that "induces cancer in man or animal." For the first time, it set a strict "zero risk" standard for pesticide residue in processed food.

The Delaney Clause, however, sat on the books **unenforced** for decades, largely because most pesticides were the product of World War II **chemical-warfare** research and had not been studied for their long-term health **effects**.<sup>29</sup> But as research finally started rolling in, many pesticides were found to cause cancer in animals. According to the Natural Resources Defense Council, more than a hundred active ingredients in pesticides have been identified as carcinogens.

Despite growing evidence of **pesticides'** hazards, in 1988 the EPA tried to replace the Delaney Clause's zero-risk standard for pesticide residues in processed foods with a weaker "negligible risk" standard, arguing that the zero-risk standard had become **outdated**.<sup>30</sup> Advances in technology allowed regulators to isolate chemical residues in the tiniest particles of food, and microscopic traces of residue weren't always harmful. Still, the law stipulated

zero risk, and that meant the agency was forced to restrict foods or pesticide use that it might otherwise have considered safe.

However, in light of the EPA's track record on pesticide regulation, the **agency's** environmentalist critics feared that any weakening of the Delaney standard would only make things **worse**.<sup>31</sup> The Natural Resources Defense Council and the state of California took the agency to court, and in 1992 a federal judge ordered the EPA to enforce the Delaney Clause's zero-risk standard by 1997, a move that would have forced the cancellation of four known **carcinogens**.<sup>32</sup>

But the ruling didn't go over well at the EPA, where agency officials feared retaliation by the pesticide **industry**—a much more formidable opponent than the environmental activists. EPA officials continued to fight the decision until February 1995, when they worked out a consent agreement with the plaintiffs, **NRDC**, and the state of **California**.<sup>33</sup> Under the deal, the EPA promised to phase out within five years any pesticides detectable in food that were found to be carcinogenic in animals. More than eighty pesticides would be phased out in **all**.<sup>34</sup>

The industry didn't take long to catch on to the agreement's significance. "Basically, farmers and **agrichemical** people realized that Delaney was finally going to be enforced," Greg Dodson, an aide to Representative Henry **Waxman**, a Democrat from California, told the Center.

Pesticide manufacturers and food processors joined forces and set their scopes on the Delaney Clause. "EPA's refusal to use its authority to avoid the problems that will be created by this consent decree **highlight[s]** the need for prompt passage of legislation to update our nation's pesticide laws and regulations and to replace the 1950s-era Delaney Clause with modern, science-based legislation," said John Cady, the president of the National Food Processors Association, at the **time**.<sup>35</sup>

**Juanita Duggan**, the association's senior vice president for government affairs, put it more simply: "This is precisely the kind of regulatory activity the 104th Congress was elected to **reverse**."<sup>36</sup>

Indeed, ever since the Republicans won control of Congress in **1994**, agrichemical interests had sought their help in killing the Delaney Clause. But by 1996, the Republicans had done little to overturn it, and anger within the industry was building. In the spring of that year, the industry put pressure on the Republican leadership to come up with a bill that met their **demands**.<sup>37</sup> Pesticide manufacturers and users wanted federal regulators to weigh a pesticide's economic benefit to agribusiness against its health risks to the public when figuring out how much pesticide residue to allow in **food**.<sup>38</sup> Industry pressure eventually paid off, and Representative Thomas **Bliley, Jr.**, a Republi-

can from Virginia, introduced the hard-line Food Quality Protection Act, which swept away the tough standard for pesticide residue set by Delaney.<sup>39</sup>

The politics of FQPA's passage was another story. The measure—rolled into a larger bill also sponsored by Bliley—had 240 cosponsors, including some Democrats. But House Majority Whip Tom DeLay, a Republican from Texas, warned agribusiness representatives that House leaders were reluctant to push the legislation through.<sup>40</sup> With a fall election looming, Republicans didn't want to be tarred and feathered for insensitivity to the public's health and safety.

Agrichemical interests were not pleased, given that they were among the GOP's biggest patrons. They formed a sprawling alliance called the Food Chain Coalition, which included chemical giants such as Dow Chemical and Monsanto; pest-control companies such as Terminix and Ortho; and food-processing firms like Archer Daniels Midland Company. The coalition also included trade associations such as the American Crop Protection Association and the American Farm Bureau Federation.

Political action committees formed by agribusiness, pesticide companies, and the food industry have doled out \$9.3 million in campaign contributions to House members since 1992, according to a report by the Washington-based Environmental Working Group. Almost \$7 million of that went to cosponsors of the Bliley bill.<sup>41</sup>

Between 1987 and 1996, members of the Food Chain Coalition contributed at least \$84.7 million to congressional campaigns, according to an analysis by the Center.<sup>42</sup> The top recipient of Food Chain Coalition cash in the Senate was Republican Pat Roberts of Kansas, the former chairman of the House Agriculture Committee and a current member of the Senate Agriculture Committee. Between 1987 and 1996, he received \$117,733 in contributions. The top recipient in the House was Representative Charles Stenholm of Texas, currently the ranking Democrat on the Agriculture Committee. Stenholm has close ties to President Clinton and Vice President Albert Gore, Jr. Between 1987 and 1996, Stenholm accepted \$121,322 from coalition member companies' PACs.

The American Crop Protection Association, formerly known as the National Agricultural Chemicals Association, alone distributed nearly \$9 million to congressional campaigns. And within ACPA, Dow Chemical Company gave more than any other member, shelling out \$2.5 million. Dow was followed by FMC Corporation, a Chicago-based company that makes agricultural pest-control chemicals, which gave more than \$1.5 million.

The combined membership of the Food Chain Coalition also spent more than \$65 million to lobby Congress on a variety of issues in 1996, including FQPA

and its implementation, the Center's analysis of lobbying reports shows.<sup>43</sup>

But the arm-twisting didn't stop there. Pesticide and food-processing companies and their trade associations also treated lawmakers and their aides to free trips.<sup>43</sup> From early 1996 to mid-1997, Food Chain Coalition members reported having spent \$90,252 on nearly 100 congressional junkets, an analysis by the Center shows. Destinations included New Orleans; Palm Springs, California; and Boca Raton, Tampa Bay, and Orlando, Florida. Agrichemical money also carried Members of Congress or their staffs to the casino-lined streets of Reno, Nevada.

While the pesticide industry pulled out all the stops, the Clinton Administration began to apply its own pressure on GOP lawmakers. The Administration's proposal for a tough new standard for pesticide residue in food only made Republicans look worse. Under the White House-backed Pesticide Reform Act of 1994, the maximum amount of carcinogenic pesticide allowed in food would have been set at one part per million.<sup>45</sup> Such a uniform standard would have fixed a glitch in the Delaney Clause, known by some as the "Delaney paradox," which allowed regulators to restrict pesticides in processed foods but not in raw foods. The Natural Resources Defense Council opposed the bill, saying it didn't go far enough.<sup>46</sup> But it was enough to scare the pesticide industry. The bill would "go well beyond provisions necessary to . . . provide EPA with authority to remove potentially hazardous pesticides from the market on a timely basis," said Jay Vroom, the president of ACPA.<sup>47</sup>

Caught between appeasing agrichemical interests and being branded by Democrats as a scourge on the environment in the upcoming elections, the Republicans were eager to get something passed. Democrats, seeing a chance to tighten pesticide regulations, also came to the bargaining table, ready to strike a deal. By July 1996, pesticide manufacturers, environmentalists, and lawmakers in both parties came up with a compromise measure that easily passed both chambers.

As Greg Dodson, an aide to Waxman, summed it up in an interview with the Center, "The basic tradeoff was to get rid of the Delaney Clause for processed foods in exchange for having a unified health-based standard."<sup>48</sup>

The compromise, however, was only the calm before the storm. Rumors started to circulate that the EPA was gearing up to ban several widely used pesticides.

**Representatives Stenholm and Berry warned Vice President Gore that if the EPA moved to ban widely used pesticides, there would be an uproar in key agricultural states.**

"We saw, for instance, documents which said that EPA should consider canceling tolerances in May 1998," Robert Rosenberg, the director of government affairs for the National Pest Control Association, told the Center. "We've heard EPA officials get up and say, 'We haven't really done the risk assessments yet, but we know that just the dietary risks from organophosphates [the chemical family that includes chlorpyrifos] already far exceed the risk cup [the acceptable amount of exposure].' That gives us cause for serious concern."<sup>49</sup>

Pesticide manufacturers didn't bother to wait for more proof. They immediately launched a pre-emptive strike against regulators for fear that agency officials would apply FQPA rigidly and set pesticide tolerances so high that they would effectively outlaw the use of top-selling products like chlorpyrifos and other organophosphates.

"I think the law was written to be flexible," the National Food Processors Association's John Cady told the Center. "I'm concerned that the agencies go as far as they can on the conservative side—if that's the right word to use—in implementing this thing."<sup>50</sup>

One of the provisions of FQPA that put the pesticide industry on edge was the strict timetable that federal regulators were required to follow under FQPA to bring existing tolerance levels for pesticide residues in line with the new standard. According to the schedule, the EPA must re-evaluate more than 9,000 tolerances within the next ten years.<sup>51</sup> First up are organophosphates like chlorpyrifos as well as carbamates (another family of pesticides) and probable or possible human carcinogens. Under FQPA, pesticides also have more hurdles to jump before winning EPA approval. When weighing a pesticide's health risks, regulators must now test for a chemical's effects on hormone functioning, they can take into account pesticide residues found in drinking water and the home, and they can more easily restrict a pesticide if it poses a serious enough risk to children.<sup>52</sup>

The pesticide industry argues that, working under the gun and under the watchful eye of politically appointed higher-ups, federal regulators won't take the time to consider all the evidence on pesticides and will start arbitrarily restricting or canceling products. Christopher Kiosk, a spokesman for the American Crop Protection Association, told the Center, "EPA seems to be following a clock—the clock of political science rather than sound science."<sup>53</sup>

Determined to stop the EPA before it got out of the starting gate, FQPA's opponents, represented by the Food Chain Coalition, deployed a three-pronged strategy: harassing federal regulators at the EPA, lobbying Congress and the Vice President, and trying to turn public opinion against the new law.

The frontal assault on pesticide regulators began in the spring of 1998, just as rumors of an impending pesticide ban were circulating. In a letter dated March 24, 1998, addressed to EPA administrator Carol Browner and obtained by the Center, the Food Chain Coalition accused EPA officials of reading FQPA too narrowly and of possibly canceling the use of pesticides "in order to fulfill a political agenda premised on the need to make adverse risk findings and demonstrate the 'seriousness' of EPA's intentions to 'take action.'"<sup>54</sup>

Some of the face-to-face coaxing and public-relations voodoo was left in the hands of Washington's pre-eminent pesticide lobbying firm, Jellinek, Schwartz & Connolly, whose lineup is a virtual all-star team of former EPA officials. Steven Jellinek, the firm's chairman, was the assistant administrator for pesticides and toxic substances at the EPA during the Carter Administration.<sup>55</sup> Jeffrey Schwartz, a senior vice president of the firm, was an attorney in the EPA's Office of General Counsel in the early 1970s.<sup>56</sup> Charles Elkins, a vice president of the firm, was the director of the EPA's Office of Toxic Substances from 1986 to 1990 and the agency's associate general counsel from 1990 to 1994. James Lamb, another vice president of the firm, was a special assistant to the assistant administrator for pesticides and toxic substances at the EPA from 1985 to 1989. Ronald Outen was the chief of the policy branch and chemical regulation branch in the EPA's Office of Toxic Substances from 1978 to 1981. The latest EPA official to join the lobbying firm is Daniel Barolo, the former director of the agency's Office of Pesticide Programs.

Jellinek, Schwartz & Connolly also boasts a number of direct lines to Capitol Hill. Outen, for example, worked for the Senate Committee on Environment and Public Works from 1983 to 1987. Sueanne Pfifferling, another vice president of the firm, previously worked as a legislative assistant to Senator Daniel Patrick Moynihan, a Democrat from New York. And Schwartz, on leaving the EPA in 1973, spent the next six years as the counsel for environmental legislation at the House Committee on Interstate and Foreign Commerce.<sup>57</sup>

The firm delivers for its clients by planting not only provisions in legislation but also propaganda in newspapers that lawmakers and regulators read. On January 8, 1997, an article bearing the headline "Beware Junk Science"—and the byline of lobbyist Lamb—appeared on the op-ed page of *The Washington Times*. Opening with a reference to the Alar pesticide scare of the late 1980s, Lamb deftly segued to the real subject of his commentary. "Now the junk scientists are at it again," he wrote. "Their next target? Dursban."

His conclusion: "I really don't see the point of once again terrifying millions of American parents and children if the science isn't there to justify it. And, in the case of Dursban, the science is not there."

The newspaper identified Lamb as "a **toxicologist** at the environmental consulting firm of **Jellinek, Schwartz & Connolly, Inc.**, whose clients include **DowElanco**, a producer of **chlorpyrifos**."

The pesticide industry's cause was also championed in the news media by one Michael Fumento. "The FQPA was a good idea gone bad," Fumento warned in yet another **antiregulatory** missive that ran in *The Washington Times* on May 24, 1998. Fumento went so far as to accuse the EPA of being racist for trying to restrict the use of chlorpyrifos. "Asthma deaths have increased by an appalling six **times** in recent **years—mostly** among inner-city blacks. The main cause? Cockroaches. . . . Replacing the best household bug killers with inferior ones is **breathtakingly** cruel." Fumento was identified as a senior fellow with the Environmental Regulatory Project and a scientific adviser to the Atlantic Legal Foundation. What readers couldn't know is that since 1988 the Atlantic Legal Foundation has been funded by the Lilly Endowment, Inc., which was created in 1937 by three members of the Lilly family and now owns about 18 percent of the company's **stock**.<sup>58</sup>

Pesticide giant Dow **AgroSciences** employed less subtle tactics. The company applied its own hands-on approach to "grassroots" organizing. When putting together a congressional letter-writing **campaign**, all pest-control operators had to do was fill in the blanks: "I am a [PCO, LCO, nurseryman, forester, etc.] from [town, state], where I [describe your **business**]. I am very concerned that some of the pesticides I need to protect [manage] [homes, **rights-of-way**, etc.] may not continue to be available because of the Environmental Protection Agency (EPA) decisions that may happen soon." At the end of the sample letter, the writer was asked to "please send a copy of the letter to your Dow AgroSciences **representative**."<sup>59</sup>

The National Pest Control Association sponsored its own "grassroots" day on Capitol Hill. "About 600 pest-control operators came to D.C., and we asked them to ask their Congressmen to share that concern with the President and with Ms. Browner, and I think that's what happened," the association's Robert Rosenberg told the Center. "I've seen copies of **dozens—but** I know people that were saying **hundreds—of** letters that went from Capitol Hill either to the White House, to the Vice President, or to Ms. Browner."

In the end, all the aggressive lobbying, generous campaign contributions to **pesticide-friendly** lawmakers, and planted editorials paid off.

The pesticide industry inevitably turned to its powerful allies in Congress. Republican Richard **Lugar** of Indiana, the chairman of the Senate Agriculture Committee, rallied to the industry's defense. Lugar, along with several other

committee members, shot off his own letter to the EPA in March 1998 urging the agency to share with pesticide manufacturers the data it was using to review tolerances. "We understand that EPA may use default assumptions, which could result in numerous cancellations of tolerances beginning as early as this year," Lugar wrote.<sup>60</sup> His committee also recommended that EPA officials consult with industry stakeholders before making decisions.<sup>61</sup>

But it turned out to be two Democrats—Representatives Stenholm and Marion Berry of Arkansas—who got results for the industry. Their ties to the White House won them an audience with Vice President Gore.

"[Gore] was getting the credit for these decisions," Stenholm told the Associated Press in May. "I don't think anybody that has aspirations for national office wants to take credit for stopping technology in agriculture." Stenholm and Berry warned Gore that if the EPA moved to ban widely used pesticides, there would be an uproar in key agricultural states such as Iowa, Texas, Florida, and California.<sup>62</sup> More important, Gore would pay a hefty political price in what were critical presidential battlegrounds.

In his 1992 book on global environmental perils, *Earth in the Balance*, Gore had written: "Over the past 50 years, herbicides, pesticides, fungicides, chlorofluorocarbons (CFCs), and thousands of other compounds have come streaming out of laboratories and chemical plants faster than we can possibly keep track of them. All of them are supposed to improve our lives and hundreds of them have done so. But too many have left a legacy of poison that we will be coming to terms with for many generations."<sup>63</sup> But with his eye on the Oval Office in 2000, the environmentalist now had become a willing tool of pesticide-industry interests.

On the heels of Stenholm's visit, Gore issued a memo to the EPA stating that although there was broad support for the protections in FQPA, especially when it came to children, "there are corresponding concerns about potential uncertainty for those whose livelihood and practices are potentially affected as EPA implements the new law."<sup>64</sup> He ordered EPA officials to work with the Agriculture Department on the review of tolerances, to guarantee pesticide users and makers that the agency would come up with transitional alternatives in the event of a pesticide ban, and to let the industry have more input on the review process.<sup>65</sup>

By allowing industry a say in the matter, Gore effectively put his own regulators on a short leash. Gore's order led to the creation of a fifty-member advisory panel to help the EPA navigate through the hostile political waters of both the pesticide and food industries and environmental groups. When the panel

sat down for its first meeting in late May 1998, chemical manufacturers arrived in force. Industry giants at the table included Monsanto Company, Novartis, Gowan Company, Dow AgroSciences, and American Cyanamid, as well as the American Crop Protection Association. A smattering of farmers, environmental groups, academics, and food processors were also on hand.

"[The advisory panel] was created because pesticide companies and farmers put pressure on the White House to slow this thing down," Ken Cook of the Environmental Working Group, a member of the advisory panel, told the Center. "It looks like it's had that effect, whether or not that's what the Vice President intended."<sup>66</sup>

In just a few months—and with a few million dollars—the members of the Food Chain Coalition had gotten their wish: They managed to put the brakes on some of the toughest new pesticide regulations to be passed in forty years.

"It took the coalition—a coalition of these groups around a single purpose—to supply the oomph needed, if you will, to push something through the Congress," O'Conner told the Center. "And they're trying to do the same thing to make it clear to the agency that the same kind of clout that produced a unanimous passage of a bill is the kind of clout that they're going to have to deal with if they don't implement the bill in some appropriate way."<sup>67</sup>

The pesticide lobby and its allies in Congress remain determined not to be caught off guard by regulators again, as they were by Delaney's sudden revival in 1992. As Stenholm recently assured a farm-bureau group, "The battle's not over yet."<sup>68</sup>

O'Conner told the Center, "Congress is going to make it clearer and clearer to [the EPA] as time goes on [that] if there is a problem with a chemical, nobody is going to defend that chemical, but mass cancellations on the basis of assumptions are not going to cut it. And more pressure will be applied. Ultimately, [the EPA's] appropriations will be at risk, and beyond that, laws will be passed to prevent them from doing it if they keep it up."

Back in Charleston, West Virginia, Joshua Herb's parents don't need to be told why pesticide regulations don't always work the way they're supposed to.

"I look at these products on counters and say, 'Gosh, it looks like it must be safe,' and it's not," Vicki Herb told the Center. "The people unknowingly or ignorantly trust our government to keep us safe when in fact that is not the case here. That's not what's going on."



# The Killing Fields

**A**s she exhaled for the last time, Sandra Cornwall Mero couldn't have known that her life was part of the price that elected officials had decided should be paid for cheaper produce, their own job security, and the continued prosperity of two U.S. chemical companies.

The politicians would deny it, of course—and it's true that, in some respects, Sandra Mero's death was an accident. As it happened, the studio next door to her apartment in Toluca Lake, California, was being fumigated with methyl bromide to kill insects, and the odorless gas seeped through seven empty pipes leading into Mero's home. Unaware that the virulent pesticide had invaded her body, Mero went to sleep, awoke the next day feeling ill, telephoned friends to let them know, and went back to bed. She never got up again, and on March 25, 1997, after two and a half weeks in a coma, the 36-year-old entertainment-company assistant was pronounced dead at a Burbank hospital.<sup>1</sup>

If chemicals are dangerous enough—and, by almost any measure, methyl bromide is as dangerous as they get—bans on their production or use can be adopted by state or federal governments, or even agreed to internationally. Methyl bromide has been, at one time or another, subject to bans at all of those levels. Exposure to this toxin may cause everything from inflammation of organs to blindness, convulsions, and death. Exposure of pregnant women may result in fetal defects. The release of the chemical into the atmosphere has been found to severely damage the earth's ozone layer, which protects humans from cancer-causing ultraviolet radiation.<sup>2</sup> By all measures, methyl bromide is a deadly menace. Although there are safe alternatives, millions of pounds of methyl bromide are still produced and sold each year<sup>3</sup>—a testament to the adroit manipulation of the political system by the handful of companies that are the poison's principal manufacturers and users.

One of the deadliest weapons in the exterminator's arsenal, methyl bromide is used primarily to sterilize soil before strawberries, tomatoes, and

other crops are planted. The poison gas is injected into the ground to a depth of one to two feet, after which the earth is covered with massive tarpaulins that are removed 24 to 72 hours later. During this interval, methyl bromide kills insects. It kills weeds. It kills worms. It kills fungi.<sup>4</sup> Because it effectively rids the soil of unwanted life forms, methyl bromide is a favorite of the agricultural

**Exposure to the pesticide methyl bromide may cause everything from inflammation of organs to blindness, convulsions, and death. Exposure of pregnant women may result in fetal defects. The release of the chemical into the atmosphere has been found to severely damage the earth's ozone layer, which protects humans from cancer-causing ultraviolet radiation.**

community, which might otherwise have to use a more expensive combination of chemicals.<sup>5</sup> The poison is also used to fumigate fruits, vegetables, dried nuts, and grains before they are sent to market.<sup>6</sup> In 1994, the Environmental Protection Agency decided that foods treated with the chemical did not need to be labeled as such—thereby violating the terms of the Clean Air Act. The National Resources Defense Council sued the EPA; in June 1998, the agency settled the suit and agreed to require labels on products treated with methyl bromide.<sup>7</sup>

Meanwhile, methyl bromide remains a major source of revenue for Great Lakes Chemical Corporation and Albemarle Corporation, two of the three firms (along with the Israeli company Dead Sea Bromine Company Ltd.) that collectively produce more than 75 percent of the world's supply of the chemical.<sup>8</sup> The bottom line: One hundred fifty-two million profit-producing pounds of the stuff is used annually around the world,<sup>9</sup> a global trade that has been estimated in excess of \$50 billion.<sup>10</sup> When the choice is health or wealth, big corporations—and the politicians who cater to them—frequently have little trouble deciding on the latter.

The story of methyl bromide illustrates the ease with which corporate polluters not only manipulate the nation's political system at all levels, but also hammer U.S. policy into a weapon to fend off international efforts to regulate the chemical. As usual, money is their principal tool and Congress their target, although in this instance California's governor also played a pivotal role.

Under California's Birth Defects Prevention Act of 1984, manufacturers of potentially harmful chemicals were required to submit health studies to the

state by 1991 or face a ban of their products. The manufacturers of methyl bromide did not submit the required studies on time, and for their laxity they were granted a five-year extension until March 30, 1996. When the poison producers were on the verge of missing another deadline, Republican Governor Pete Wilson, acting at the behest of powerful farm groups, called a special session of the state legislature to ask that the ban be postponed until December 1997. Less than three weeks before the lethal chemical was to have been rendered illegal in California, lawmakers granted Wilson his wish.<sup>11</sup>

Later that same month, Wilson was flanked by pesticide-industry lobbyists and legislators representing farm districts as he signed into law the provision that would, indirectly, result in Sandra Mero's death.<sup>12</sup> At the time, Wilson was heavily in debt from his failed campaign for the Republican presidential nomination in 1996. He was thus a prime target for the Methyl Bromide Working Group, a somewhat mysterious Washington, D.C., trade association whose members have worked tirelessly—and, for the most part, secretly—to ensure that the world will not be deprived of this lethal chemical. Perhaps more important, Wilson had a long-standing relationship with one of the largest and most politically aggressive of methyl bromide's defenders, Sun-Diamond Growers of California. Formed as an umbrella group for five agricultural cooperatives in California, New Mexico, Oregon, and Illinois, Sun-Diamond had been a top contributor to Wilson's campaigns for governor, weighing in with more than \$190,000 from 1989 to 1996.<sup>13</sup> And Sun-Diamond's member co-ops wanted to keep using methyl bromide.

Of course, neither Governor Wilson nor those who did his legislative bidding could have known that, twelve months later, Sandra Mero would be the nineteenth resident of Southern California in thirteen years to be killed by methyl bromide.<sup>14</sup> But it was clear that additional tragedies caused by this poisonous fumigant were as inevitable as the Pacific tides.

Consider the evidence: At nonlethal levels of exposure, methyl bromide causes nausea, vomiting, dizziness, headaches, skin injuries, chest pains, shortness of breath, numbness, loss of muscle control, and blurred vision. At higher levels, it produces tremors, agitation, convulsions, coma, and such neurological problems as inflammation of the nerves. Ratchet up the exposure, and death soon follows.<sup>15</sup> The British medical journal *The Lancet* has noted that there are no specific antidotes available for methyl-bromide poisoning.<sup>16</sup>

At the time the California legislature acted, more than 400 bromide-related poisonings had been reported in the state since the early 1980s.<sup>17</sup> The poison was, and still is, routinely applied within breathing distance of schools,

homes, and day-care centers.<sup>18</sup> In Fremont, California, more than 1,200 people were forced to flee their homes when methyl-bromide fumes drifted off a gladiolus field.<sup>19</sup> In the San Joaquin Valley town of Ceres, 1,500 people were evacuated—and 35 received medical treatment—after methyl bromide was improperly applied to a spicefield.<sup>20</sup> A jogger fell ill after passing a field owned by the University of California at Davis that was being fumigated with the chemical.<sup>21</sup> And if lawmakers were interested enough to look across the state line for corroborating evidence, they would have unearthed countless horror stories like one in Miami: Seventy-five-year-old Caridad Clausell, who was trying to exterminate dry-wood termites, died two days after being accidentally trapped in her house as it was being treated with methyl bromide. A neighbor who heard Clausell's screams and vainly tried to rescue her suffered a skin rash from contact with the fumes.<sup>22</sup>

A 1998 study by the Environmental Working Group found that farmers use thousands of pounds of the poison in fields that are within a mile-and-a-half radius of schools.<sup>23</sup> Springbrook Elementary School, for instance, in Orange County, California, is by all accounts a fairly typical suburban school, with 600 students, concerned parents, an active Parent Teacher Organization, committed teachers, and a responsive administrator.<sup>24</sup> In 1995, 12,576 pounds of lethal methyl bromide was applied to crops—mostly strawberries—located within a mile and a half of the building.<sup>25</sup>

Hope Christian Academy, a private school in Huntington Beach with an enrollment of 184 students, is within a mile and a half of fields that were treated with 5,683 pounds of methyl bromide in 1995. Los Amigos High, a school with 1,803 students in Fountain Valley, is within the same distance of fields that were treated with 7,259 pounds of the chemical in 1995. Rio Plaza Elementary, a school with 476 students, is within a mile and a half of fields that were treated with 79,517 pounds of methyl bromide in 1995.<sup>26</sup>

In May 1998, when the Oxnard Elementary School District proposed building a school adjacent to Frederick Rosenmund's farm, Rosenmund hired an attorney to stop construction. He and other farmers in the area feared they'd be legally liable if a student fell ill from their applications of pesticides and herbicides. "It would be unconscionable to build a school in close proximity to the regular application of these toxic materials," Richard Tentler, Rosenmund's lawyer, wrote to the trustees of the Oxnard district. "It would subject schoolchildren to exposure and toxic poisoning."

The "toxic materials" Tentler referred to included methyl bromide. Rosenmund's workers, wearing full protective gear, inject the poison into his straw-

berry fields in the summer. Joe Maulhardt, whose fields also border on the school's proposed site, uses the poison on his strawberries in the winter. "Maulhardt does winter strawberries, we do summer strawberries—so the children would be exposed all year long," Rosenmund told a reporter for the *Los Angeles Times*.

"You have a concentration of very young children who are being overexposed to toxic chemicals," Marion Moses, a physician who works for the Pesticide Education Center in San Francisco, told the *Times*. "We're supposed to be protecting these children, not poisoning them."<sup>27</sup>

But with an economy so dependent on crop production, Governor Wilson and his minions clearly considered the benefits of methyl bromide to be much greater than the costs—even if Sandra Mero's friends and family might have ultimately felt otherwise. So they toed the line and did agriculture's dirty work.

Despite their success in California, the methyl-bromide manufacturers still had a fight in Washington on their hands. There, a troublesome ban on the production and importation of methyl bromide had been adopted<sup>28</sup>—not because of the threat to human life, which Congress did not deem worthy of action, but because it is one of the most powerful destroyers of stratospheric ozone.<sup>29</sup>

In 1990, Congress decreed that any chemical listed by the Environmental Protection Agency as a Class I ozone destroyer be banned within seven years. The EPA listed methyl bromide on December 10, 1993, triggering a prohibition on its production and importation as of January 1, 2001.<sup>30</sup>

If that wasn't enough of a headache for the methyl-bromide industry, there was yet another obstacle to overcome. Pursuant to the Montreal Protocol—an international agreement entered into in 1987 to eliminate the emissions of ozone-destroying chemicals<sup>31</sup>—the production of methyl bromide is slated to be phased out in developed nations, including the United States, by 2005 and in developing nations by 2015. To keep the poison flowing, the methyl-bromide industry needed to find a way both to overcome U.S. law and to circumvent the treaty.<sup>32</sup>

**In Fremont, California, more than 1,200 people were forced to flee their homes when methyl-bromide fumes drifted off a gladiolus field. In the San Joaquin Valley town of Ceres, 1,500 people were evacuated—and 35 received medical treatment—after methyl bromide was improperly applied to a spice field.**

Its first step was to emulate other besieged polluters and form an ambiguous-sounding front organization—in this case, the Methyl Bromide Working Group. Such front groups, virtually unheard of before 1980, are now invented on a regular basis in Washington by the high-powered lobbyists and public-relations firms hired by corporations to fend off new laws, cloud scientific findings, and quell public outcry. An official of the Federal Election Commission estimates that there are more than 1,000 such outfits,<sup>33</sup> although it's often

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impossible to identify a group's beliefs from its name—a devious strategy that helps corporations blur the distinctions between themselves and the public-interest groups that oppose them.

In the case of acid rain, for example, the coal and utility industries relied on an organization called Citizens for Sensible Control of Acid Rain. About 125 coal and electric companies collectively pumped more than \$5 million into the organization, which in 1986 spent more on lobbying than any other such outfit in Washington. Although its name suggests that it is a broad-based, grassroots organization, not one of the "citizens" that were members were real human beings—all were corporations.<sup>34</sup>

Similarly, Responsible Industry for a Sound Environment, which fronts for the nation's pesticide manufacturers, has lobbied to kill proposals that lawn-care companies be required to post warnings after spraying chemicals that can cause cancer and nervous-system damage. The Safe Buildings Alliance, a triumvirate of former asbestos manufacturers, peddles the feel-good message that "you have more of a chance of being hit by lightning than dying from asbestos," in the words of its vice president, Jeff Taylor. Never mind that some experts put the number of Americans killed by exposure to the cancer-causing mineral in the hundreds of thousands over the past several decades.<sup>35</sup>

The goals of the Methyl Bromide Working Group—whose letterhead and promotional materials carefully guard the identity of its backers, officers, directors, members, and staff—are to directly influence the political process, build coalitions with other politically powerful interests, discredit the feasibility of alternatives to methyl bromide, and raise fears of economic ruin and crippling job losses. The group also seeks to cast doubt on scientific consen-

sus, no matter how credible the source or how urgent the findings. NASA, the National Oceanic and Atmospheric Administration, the World Meteorological Organization, and the United Nations Environment Programme jointly concluded in a 1994 report, for **example**, that bromine, an element in the compound methyl bromide, is fifty times as destructive of stratospheric ozone as chlorine, found in such compounds as **chlorofluorocarbon (CFC)**. The report, published by the **WMO**, said that eliminating methyl-bromide emissions from **agricultural**, structural, and industrial activities was one of the single most important steps that the world's governments could take to reduce future levels of ozone **depletion**.<sup>36</sup>

To counter such findings, the methyl-bromide industry undertook a joint study with the U.S. Agriculture Department. When the results were tabulated, this report concluded that "relatively little is known about where methyl bromide comes from . . . where it goes . . . and what happens to the methyl bromide which escapes to the **atmosphere**."<sup>37</sup>

Why would the Agriculture Department undertake a study with such a biased front group, and how could it reach conclusions that are so directly at odds with the findings of other government agencies and the global scientific community? A possible explanation rests in the relationship between **Sun-Diamond Growers—Governor Wilson's generous benefactor—and then-Secretary of Agriculture Mike Espy**, who was a Democratic Representative from Mississippi when President Clinton picked him for the post in 1993.

Not all the money that Espy received as a public servant was disclosed to those who paid his salary. In September 1996, a federal jury found **Sun-Diamond** guilty on eight out of nine counts of making illegal gifts to Espy while he was Secretary of Agriculture. A year later, Richard Douglas, a lobbyist and senior vice president of **Sun-Diamond**, was found guilty of delivering \$7,600 in gifts to Espy, his onetime college roommate and frequent social companion, including **top-of-the-line Hartmann** luggage, seats at the U.S. Open tennis matches, and \$655 in meals. According to the grand jury, one of the things **Sun-Diamond** sought was the help of Espy and the Agriculture Department in persuading the Environmental Protection Agency not to ban methyl **bromide**.<sup>38</sup>

The disgraced Espy resigned his post in late 1994 as questions multiplied about his relationships with **Sun-Diamond** and other interests regulated by the **Agriculture Department**.<sup>39</sup> But if the methyl-bromide industry had lost one friend in high places, it still had plenty of others willing to act as its mouthpiece. In Congress, the chief ally of the Methyl Bromide Working Group proved to be Representative Dan Miller, a Republican whose Florida district is home

to some of the nation's largest tomato growers and packers<sup>40</sup>—ergo, fans of methyl bromide.

Some from the Sunshine State learned to use the poison as a legislative bargaining chip. In 1993, for example, when President Clinton was pressing Congress to approve the North American Free Trade Agreement, several members of the Florida delegation extracted, as the price for their votes, a promise from him to keep methyl bromide on the market. Then-U.S. Trade Representative Mickey Kantor penned assurances to the Florida Fruit and Vegetable Association that no restrictions on the manufacture or use of the toxic chemical would be imposed until the year 2000—even though just one week earlier the EPA had proposed to freeze production of the chemical at its 1991 levels.<sup>41</sup> Beyond that, Kantor promised his personal involvement in the matter to ensure that the commercial interests of the Florida growers would not be affected by future restrictions beyond the new millennium.<sup>42</sup> Miller's press secretary told the Center that there was "no truth" to the suggestion that Miller bargained for his vote, saying that the lawmaker has been a consistent supporter of free trade.<sup>43</sup>

But Kantor's assurances weren't enough for the industry or for Miller, who on August 4, 1995, introduced legislation to reverse the federal ban on the production of methyl bromide and to withdraw U.S. participation in international curbs under the Montreal Protocol. Miller's proposal also would have, among other things, created a set of certification procedures for alternatives to methyl bromide and stripped the EPA of its authority to force agricultural products treated with methyl bromide to be so labeled.<sup>44</sup> In short, Miller was out to ensure that his tomato-growing constituents would be forever free to wreak environmental havoc as they saw fit, with only a modicum of government oversight or intrusion.

Miller's proposal was branded "dead wrong" by John Passacantando, the executive director of Ozone Action<sup>45</sup>—a public-interest group focused on global climate change and ozone depletion—but the two-term lawmaker nonetheless managed to line up some three dozen cosponsors.<sup>46</sup> Among them was Majority Whip Tom DeLay of Texas, an exterminator by trade, who seven months earlier had unsuccessfully introduced his own bill that proposed an outright repeal of all the 1990 amendments to the Clean Air Act.<sup>47</sup>

Support for Miller's bill increased after September 1995, when President Clinton went to electoral-vote-rich California and repeated his softened stance on the methyl-bromide ban to a gathering of farmers. Under pressure from Congress, his backpedaling translated into a U.S. retreat at international

negotiations. At a meeting in Austria that December, the U.S. delegates pressured their fellow negotiators to back away from the tough phase-out dates that had been in place since 1987. As a result, the ban on the production or importation of methyl bromide for industrialized nations that was supposed to go into effect in 2001 was replaced by a goal of achieving a token 25 percent reduction in its use.<sup>48</sup> Meanwhile, the complete ban on production was pushed back to 2010 — or perhaps never, because for the first time the concept was broached of exempting agricultural uses altogether, on the grounds that they constitute a "critical use."<sup>49</sup> Because roughly 95 percent of U.S. methyl-bromide production is dedicated to agricultural uses,<sup>50</sup> the chemical could remain in production essentially forever.

The public's health notwithstanding, the political tide was turning in the direction of the methyl-bromide industry. Credit that change in circumstance to the able work of Peter Sparber, a Washington lobbyist whose clients include the Methyl Bromide Working Group and Great Lakes Chemical,<sup>51</sup> the world's largest producer of methyl bromide.<sup>52</sup> The overlap, as it turns out, is not coincidental. Sparber is the executive director of the Methyl Bromide Working Group, whose headquarters are in the offices of his lobbying firm, Sparber and Associates. The group's chairman, Richard Landrum, works for Great Lakes Chemical in West Lafayette, Indiana. The tax returns filed by the Methyl Bromide Working Group were prepared in Indiana and had to be sent to Sparber's office in Washington when the Center asked to inspect them, as the law allows. They show that the tax-exempt organization has no employees and pays no rent; the biggest single expense in 1995 and 1996 was the payment of \$276,000 a year in "professional fees,"<sup>53</sup> presumably to Sparber or his firm.

The Methyl Bromide Working Group was formed, in the words of its tax return, to promote an "awareness and understanding of the essential and critical need"<sup>54</sup> for the chemical that killed Sandra Mero and others. And it's not the only deadly product that's found an effective advocate and ally in Peter Sparber. His lobbying firm also counts R.J. Reynolds Tobacco Company among its clients.

A sure sign of Sparber's effectiveness came in January 1996, when Mary Nichols, the EPA's assistant administrator for air and radiation, told the House

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Commerce Subcommittee on Health and Environment that the Clinton Administration supported a legislative approach to the issue—an apparent reference to Miller's bill.<sup>55</sup> The stage was thus set for methyl bromide to be permanently exempted from both the Clean Air Act and international regulation.

In the meantime, aides to Clinton and EPA administrator Carol Browner were pressuring health, environmental, and labor organizations to support

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the Administration in its efforts to stave off the Methyl Bromide Working Group's offensive on Capitol Hill. The public-interest groups were told that they should line up behind a quid-pro-quo agreement within the Administration: The EPA would maintain the listing of methyl bromide under the Clean Air Act, and the Agriculture Department would be repaid with exemptions for continued methyl-bromide use.<sup>56</sup>

But the public-interest groups balked. They not only rejected the demand to support Clinton, but they also threatened to launch a high-visibility attack, citing the EPA's own estimates that leaving methyl bromide on the market longer would lead to additional cancer deaths from increased solar radiation.<sup>57</sup> The Environmental Working Group was setting in motion a campaign in California to track complaints in areas where methyl bromide was being sprayed close to homes, schools, and day-care centers, triggering a sudden surge in public awareness.<sup>58</sup> Faced with a unified and unyielding public-interest community, and in the midst of a presidential campaign in which Clinton was bludgeoning Republicans for their dismal record on the environment, the Administration backed down.<sup>59</sup>

(Through all of this, Vice President Albert Gore, Jr., who in 1992 had blasted the Bush Administration for moving too slowly to phase out methyl bromide and other ozone-depleting chemicals,<sup>60</sup> was mute—a silence all the more conspicuous because Gore, in his best-selling book, *Earth in the Balance*, had written, "The integrity of the environment is not just another issue to be used in political games."<sup>61</sup>)

Outwardly, the Clinton Administration's retreat seemed to signal the end of effective efforts to relax the regulation of methyl bromide. Miller's bill died with no action.<sup>62</sup> The impending ban on production remained undisturbed. And even though the California legislature sided with Governor Wilson and

extended use of methyl bromide, a new deadline of December 1997 was set.<sup>63</sup> In September 1997, the signatories to the Montreal Protocol met on the tenth anniversary of the landmark agreement, again in Montreal. Methyl bromide was at the top of the agenda, and the Clinton Administration's position was that production of the chemical should be halted globally by 2001.<sup>64</sup> After all the lobbying, maneuvering, and political showboating, attention was at last being paid to the environment and the public health.

Or so it seemed.

Clinton's negotiators may have asked on paper for a global production ban starting in 1997, but what they ultimately agreed to was entirely different. In fact, the amendments to the Montreal Protocol that were finally adopted effectively guarantee Great Lakes Chemical and Albemarle Corporation a market for methyl bromide until at least 2015, and possibly forever. A phased reduction in production within the United States and other industrialized countries starts in 1999, reaching full effect in 2005. Developing nations, such as Mexico, have until 2015 to end production. But most important, there are a range of "critical use" loopholes. One, for example, allows methyl bromide to stay on the market if its absence would result in "significant market disruption."<sup>65</sup>

Among those attending the Montreal negotiations was the Methyl Bromide Working Group's Peter Sparber, who aimed to leverage support in Washington into an outcome that locked in a global market for the makers and users of one of the world's deadliest chemicals.<sup>66</sup>

But it got even better: After the adoption of the amendments to the Montreal Protocol, Miller reintroduced his legislation with some five dozen cosponsors.<sup>67</sup> This time around, what the bill seeks—the repeal of the Clean Air Act's prohibition on methyl-bromide production—is consistent with international agreement, not at odds with it. So in Washington, Sparber has been able to use the multinational agreement as a rationale for repealing U.S. law.

Miller continued to win support for his legislation through the first half of 1998, securing eleven more cosponsors by mid-June, bringing the total to 72.<sup>68</sup>

On June 10, the House Agriculture Subcommittee on Forestry, Resource Conservation, and Research, chaired by Representative Larry Combest, a Republican from Texas, held hearings on the phase-out of methyl bromide. Stacking the proceedings with industry witnesses, the committee heard from the Crop Protection Coalition, a group of 35 "agricultural organizations"; Cargill, Inc., an agricultural production company based in Minnesota; the Northwest Horticultural Council, a trade organization composed of growers and shippers of fruit; and the American Association of Port Authorities.

Combest invited no representatives from either environmental groups or farm-labor groups that support the existing plan to ban methyl bromide by 2001.

Three Representatives who have much to lose from the prohibition testified as well: Republicans Bill Thomas and **Wally Herger** of California **and—not surprisingly—Miller**. All called for delaying the ban.

The day after the hearing, Combest underscored his opposition to the phase-out, saying: "We have no proven, cost-effective substitute for methyl bromide. . . . Without a proven alternative, I am concerned that American producers and merchants will be put at an unfair disadvantage. . . . Methyl bromide is an essential tool for many aspects of our modern agricultural industry."<sup>69</sup>

It's hardly a mystery why Combest has decided to protect the industry's prerogative to use methyl bromide. During 1995 and 1996, he received \$75,650 from sectors of the industry that depend on it, including crop production and processing, tobacco, and agricultural services. From the industry as a whole, he received \$119,150 during that period.<sup>70</sup>

Representative Cal Dooley of California, the ranking Democrat on the subcommittee, was in lockstep with his Republican chairman. "It is imperative that Congress and the Administration work together to pass legislation that would bring U.S. law into alignment with the Montreal Protocol," he said.<sup>71</sup>

If **Sparber** and his allies have their way, farmers will likely be able to inject the earth with methyl bromide in perpetuity and the agribusiness constituents of Dan Miller will be able to conduct their business as usual. When more names are added below Sandra Mero's on the list of fatalities attributable to methyl bromide, Miller, Wilson, and politicians like them will no doubt offer up the same refrain: What's that got to do with the price of beans?



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## Top Contributors to Congressional Campaigns 1987-96

### AMERICAN CROP PROTECTION ASSOCIATION AND MEMBER COMPANIES

Donor	Location	Total
Dow Chemical Company	Midland, Mich.	\$2,530,963
FMC Corporation	Chicago	1,546,601
Mobil Corporation	Fairfax, Va.	1,130,303
E.I du Pont de Nemours and Company	Wilmington, Del.	858,140
Monsanto Company	St. Louis	830,407
Novartis	East Hanover, N.J.	467,884
Rhône-Poulenc Rorer, Inc.	Collegeville, Pa.	374,540
Bayer	Pittsburgh	171,240
American Cyanamid	Washington	145,160
American Crop Protection Association	Washington	137,800
ELF Atochem North America, Inc.	Philadelphia	56,245
Agway, Inc.	Syracuse, N.Y.	44,045

## Top Contributors to Congressional Campaigns 1987-96

### PESTICIDE INTERESTS

Contributor	Location	Amount
RJR Nabisco, Inc.	New York	\$3,939,159
Philip Morris Company, Inc.	New York	3,534,837
Dow Chemical Company	Midland, Mich.	2,530,963
American Crystal Sugar Company	Moorhead, Minn.	2,049,582
PepsiCo, Inc.	Purchase, N.Y.	1,905,427
National Cattlemen's Association	Englewood, Colo.	1,525,577
Coca-Cola Company	Atlanta	1,483,529
FMC Corporation	Chicago	1,546,601
Archer Daniels Midland Company	Decatur, Ill.	1,245,571
ConAgra, Inc.	Omaha, Neb.	1,263,803
Mobil Corporation	Fairfax, Va.	1,130,303
Pfizer, Inc.	New York	1,110,843
Anheuser-Busch Companies, Inc.	St. Louis	1,027,725
Joseph E. Seagram & Sons, Inc.	New York	1,000,270
American Sugar Cane League of the USA	Thibodaux, La.	973,395

## Top Contributors to Congressional Campaigns 1987-96

### FOOD CHAIN COALITION MEMBERS

Donor	Location	Amount
American Sugar Cane League of the USA	Thibodaux, La.	<b>\$973,395</b>
National Cotton Council of America	Memphis, Tenn.	954,036
National Council of Farmer Cooperatives	Washington	678,840
Coors Brewing Company	Golden, Colo.	470,155
American Bakers Association	Washington	427,774
Grocery Manufacturers of America	Washington	384,560
Society of American Florists	Alexandria, Va.	274,372
United States Beet Sugar Association	Washington	222,675
U.S. Chamber of Commerce	Washington	212,602
National Pest Control Association	Dunn Loring, Va.	205,150

## Top Senate Recipients of Campaign Contributions 1987-96

### AMERICAN CROP PROTECTION ASSOCIATION AND MEMBER COMPANIES

Senator	Party-State	Committees	Total
Pat Roberts*	R-Kan.	Agriculture	78,268
John Danforth	R-Mo.		55,715
Christopher Bond	R-Mo.	Agriculture; Environment and Public Works	54,715
<b>Phil Gramm</b>	R-Texas	Agriculture	49,859
Dan Coats	R-Ind.		48,600
Larry Craig	R-Idaho	Agriculture	44,015
<b>Rick Santorum</b>	R-Pa.	Agriculture	42,045
Rudy Boschwitz	R-Minn.	Agriculture	40,895
Mitch <b>McConnell</b>	R-Ky.	Agriculture; Environment and Public Works	39,515
Trent <b>Lott</b>	R-Miss.	Majority Leader	33,500

\* Includes totals from House races.

Names in boldface are current members of the Senate.

## Top Senate Recipients of Campaign Contributions 1987-96

### PESTICIDE INTERESTS

Senator	Party-State	Committees	Total
Pat Roberts*	R-Kan.	Agriculture	\$405,195
<b>Phil Gramm</b>	R-Texas	Agriculture	364,664
Richard <b>Lugar</b>	R-Ind.	Agriculture, chairman	314,374
Mitch <b>McConnell</b>	R-Ky.	Agriculture; Environment and Public Works	307,048
Frank Lautenberg	D-N.J.	Environment and Public Works	304,640
Christopher <b>Bond</b>	R-Mo.	Agriculture; Environment and Public Works	<b>297,961</b>
Trent Lott	R-Miss.	Majority Leader	291,107
Rudy <b>Boschwitz</b>	R-Minn.	Agriculture	277,426
<b>Orrin</b> Hatch	R-Utah		276,936
Kay Bailey Hutchison	R-Texas	Commerce; Science and Transportation	271,831
Mike <b>DeWine</b>	R-Ohio		265,723
Kent Conrad	D-N.D.	Agriculture	265,471
Dan Coats	R-Ind.		265,186
Connie Mack	R-Fla.		257,326
Jesse Helms	R-N.C.	Agriculture	255,754
Robert Kerrey	D-Neb.	Agriculture	252,095
Larry Craig	R-Idaho	Agriculture	241,399
<b>Wyche</b> Fowler	D-Ga.	Agriculture	237,314
Thad <b>Cochran</b>	R-Miss.	Agriculture	230,172
<b>Howell</b> Heflin	D-Ala.	Agriculture	227,424
Conrad Burns	R-Mont.	Commerce; Science and Transportation	215,717
<b>Tom</b> Harkin	D-Iowa	Agriculture, ranking Democrat	205,586
Robert Dole	R-Kan.	Agriculture	204,981
Rick <b>Santorum</b>	R-Pa.	Agriculture	202,683
William Schuette	R-Mich.	Agriculture	197,875
John Danforth	R-Mo.		194,700

\* Includes House campaigns.

Names in boldface are current members of the Senate.

## Top Senate Recipients of Campaign Contributions 1987-96

### FOOD CHAIN COALITION MEMBERS

Senator	Party-State	Committees	Total
Pat Roberts*	R-Kan.	Agriculture	\$117,733
<b>Richard Lugar</b>	R-Ind.	Agriculture, chairman	57,636
Jesse Helms	R-N.C.	Agriculture	51,819
Kent Conrad	D-N.D.	Agriculture	44,136
<b>Thad Cochran</b>	R-Miss.	Agriculture	37,772
Wyche Fowler	D-Ga.	Agriculture	37,499
Howell Heflin	D-Ala.	Agriculture	36,157
Richard Shelby	R-Ala.		35,806
<b>Dianne Feinstein</b>	D-Calif.		35,504
Mitch McConnell	R-Ky.	Agriculture; Environment and Public Works	34,466

\*Includes House campaigns.

Names in boldface are current members of the Senate.

## Top House Recipients of Campaign Contributions 1987-96

### AMERICAN CROP PROTECTION ASSOCIATION AND MEMBER COMPANIES

Representative	Party-State	Committees	Total
William Schuette*	R-Mich.	Agriculture	\$171,649
Dave Camp	R-Mich.		\$164,419
Tom DeLay	R-Texas		58,735
Richard Gephardt	D-Mo.		53,280
Greg Laughlin	D-Texas		47,830
Charles <b>Stenholm</b>	D-Texas	Agriculture, ranking Democrat	<b>46,100</b>
John <b>Dingell</b>	D-Mich.	Commerce	37,715
Bill Emerson	R-Mo.	Agriculture	36,850
Newt Gingrich	R-Ga.	Speaker	36,115
Billy <b>Tauzin</b>	R-La.		32,865

Names in boldface are current members of the House of Representatives.

## Top House Recipients of Campaign Contributions 1987-96

### PESTICIDE INTERESTS

Representative	Party-State	Committees	Total
Bill Emerson	R-Mo.	Agriculture	<b>\$335,271</b>
Richard Gephardt	D-Mo.	Minority Leader	330,723
Charles <b>Stenholm</b>	D-Texas	Agriculture, ranking Democrat	298,127
E ( <b>Kika</b> ) de la Garza	D-Texas	Agriculture, chairman	<b>289,513</b>
Newt Gingrich	R-Ga.	Speaker	279,941
Dave Camp	R-Mich.		271,177
Thomas <b>Bliley</b>	R-Va.		250,836
Vic Fazio	D-Calif.		245,716
Thomas Foley	D-Wash.		241,750
John <b>Dingell</b>	D-Mich.		222,370
<b>Wally Herger</b>	R-Calif.	Merchant Marine and Fisheries	211,841
Tom DeLay	R-Texas		200,633
Dan Rostenkowski	D-Ill.		196,669
<b>Cal</b> Dooley	D-Calif.	Agriculture	<b>185,816</b>
Charlie Rose	D-N.C.	Agriculture, chairman	181,925
<b>Collin</b> Peterson	D-Minn.	Agriculture	177,298
Jim Nussle	R-Iowa		176,428
Sam Gibbons	D-Fla.		176,377
Gary <b>Condit</b>	D-Calif.	Agriculture	173,090
Jerry Huckaby	D-La.	Agriculture	169,060
<b>Billy Tauzin</b>	D-La.	Merchant Marine and Fisheries	166,184
Charles <b>Rangel</b>	D-N.Y.		165,995
Charles Floyd Hatcher	D-Ga.	Agriculture	<b>165,522</b>
John <b>Boehner</b>	R-Ohio	Agriculture	<b>163,464</b>
Martin Lancaster	D-N.C.	Agriculture	156,104

Names in boldface are current members of the House of Representatives.

## Top House Recipients of Campaign Contributions 1987-96

### FOOD CHAIN COALITION MEMBERS

Representative	Party-State	Committees	Total
Charles <b>Stenholm</b>	D-Texas	Agriculture, ranking Democrat	\$121,322
Bill Emerson	R-Mo.	Agriculture	120,835
<b>Cal</b> Dooley	D-Calif.	Agriculture	78,624
Gary <b>Condit</b>	D-Calif.	Agriculture	76,365
<b>Wally Herger</b>	R-Calif.	Merchant Marine and Fisheries	75,828
Vic Fazio	D-Calif.		67,100
Bill Sarpalius	D-Texas	Agriculture	65,103
Bob Smith	R-Ore.	Agriculture, chairman	62,456
<b>Joe</b> Skeen	R-N.M.		60,942
Thomas <b>Foley</b>	D-Wash.		59,750

Names in boldface are current members of the House of Representatives.

## The Revolving Door

### WHO THE LOBBYISTS ARE AND WHERE THEY WORKED

Lawyer/Lobbyist	Firm	Client	Former Employer/Position
Michael Bates	Timmons & Co., Inc.	Monsanto Co.	House Energy and Commerce Committee
Edward Baxter	Parry, Romani & DeConcini, Inc.	Monsanto Co.	Senate Judiciary Subcommittee on Patents, Copyrights, and Trademarks
Howard <b>Berman</b>	<b>Kessler &amp; Associates, Inc.</b>	<b>Novartis</b>	Environmental Protection Agency
Roger Blauwet	Canfield & Associates, Inc.	Merck & Co., Inc.	Sen. Max Baucus (D-Mont.)
Lisa Boepple	McDermott, Will & Emery	Ciba-Geigy	Rep. Elton Gallegly (R-Calif.)
Ellen Boyle	Timmons & Co., Inc.	Monsanto Co.	House Speaker Thomas F O'Neill III (D-Mass.)
William Cable	Timmons & Co., Inc.	Monsanto Co.	House Administration Committee
Jeanne Campbell	Campbell-Crane & Associates	Merck & Co., Inc.	Rep. Dan Rostenkowski (D-Ill.)
Rod Chandler	Downey Chandler, Inc.	E.I. du Pont de Nemours and Co.	U.S. Representative (D-Wash.)
Thomas Corcoran	O'Connor & Hannan	Dow Chemical Co.	U.S. Representative (R-Ill.)
R. Lawrence Coughlin	Eckert Seamans Cherin & Mellot	Bayer	U.S. Representative (R-Pa.)
Daniel Crane	Campbell-Crane & Associates	Merck & Co., Inc.	Sen. Daniel Patrick Moynihan (D-N.Y.)
Dan Crippen	Washington Counsel	Monsanto Co.	White House, Senate Majority Leader
David Crow	D.C. Legislative and Regulatory Services	Responsible Industry for a Sound Environment	Agriculture Department

Sources: 1996 and 1997 lobbying disclosure forms filed with Senate and House of Representatives; 1998 *Washington Representatives*, Washington: Columbia Books, 1998.

Lawyer/Lobbyist	Firm	Client	Former Employer/Position
Patricia Daley	Ungaretti & Harris	FMC Defense Systems	Rep. Thomas Downey (D-N.Y.)
Donald Dack Dalrymple	Bailey & Dalrymple	Bayer	House Energy and Commerce Committee
<b>Lizanne</b> Davis	FMC Corp.		Rep. Jim Slattery (D-Kan.)
Dennis DeConcini	Parry, Romani & DeConcini, Inc.	Monsanto Co.	U.S. Senator (D-Ariz.)
Ronald Docksai	Bayer		Senate Labor and Human Resources Committee
Thomas Donnelly, Jr.	The Jefferson Group, Inc.	Dow Chemical Co.	White House
Thomas Downey	Downey Chandler, Inc.	E.I. du Pont de Nemours and Co.	U.S. Representative (D-N.Y.)
Dennis Eckart	Arter & Hadden	Monsanto Co.	U.S. Representative (D-Ohio)
Edward Faberman	Ungaretti & Harris	FMC Defense Systems	Federal Aviation Administration
Jayne Fitzgerald	Washington Counsel	Monsanto Co.	House Ways and Means Committee
Paul Freedenberg	Baker & Botts	Rhone-Poulenc Rorer	Commerce Department
<b>LaBrenda</b> Garrett-Nelson	Washington Counsel	Monsanto Co.	Joint Committee on Taxation
Gary Gasper	Washington Counsel	Monsanto Co.	Internal Revenue Service
Bruce Gates	Washington Counsel	Monsanto Co.	Rep. Carroll Campbell, Jr. (R-S.C.)
Jack Gerard	McClure, Gerard & Neuenschwander, Inc.	Merck & Co., Inc.	Sen. James McClure (R-Idaho)
Gene Godley	Bracewell & Patterson	Rohm & Haas Co.	Sen. Ralph Yarborough (D-Texas)
<b>Bryce</b> Harlow	Timmons & Co., Inc.	Monsanto Co.	White House
Lindsay Hooper	Hooper Hooper Owen & Gould	Merck & Co., Inc.	Sen. Malcolm Wallop (R-Wyo.)

Lawyer/Lobbyist	Firm	Client	Former Employer/Position
Robert Hurley	The Accord Group	Ciba <b>Specialty</b> Chemicals Corp.	Sen. John <b>Chafee (R-R.I.)</b>
Charles <b>Kinney</b>	Winston & <b>Strawn</b>	Rhone-PoulencRorer	Senate Majority Leader <b>George Mitchell (D-Maine)</b>
Tom <b>Korologos</b>	Timmons & Co., Inc.	Monsanto Co.	Sen. Robert Bennett <b>(R-Utah)</b>
Alfred <b>Lehn</b>	<b>Symms</b> , Lehn & Associates, Inc.	FMC Corp.	Sen. Robert Dole <b>(R-Kan.)</b>
Robert Leonard	Washington Counsel	Monsanto Co.	House Ways and Means Committee
William <b>Leshner</b>	Leshner & Russell, Inc.	Monsanto Co.	Senate <b>Agriculture</b> Committee
George <b>Mannina, Jr.</b>	O'Connor & <b>Hannan</b>	Dow Chemical Co.	House Resources Subcommittee on Fisheries Conservation, Wildlife, and Oceans
James <b>McClure</b>	McClure, Gerard & <b>Neuenschwander</b> , Inc.	Merck & Co., Inc.	U.S. Senator <b>(R-Idaho)</b>
Richard <b>Meltzer</b>	Washington Counsel	Monsanto Co.	House Natural Resources Committee
Toby <b>Moffett</b>	Monsanto Co.	Monsanto Co.	U.S. Representative (D-Conn.)
John <b>Mugler</b>	Symms, Lehn & Associates, Inc.	FMCCorp.	Sen. Robert Dole (R-Kan.)
Lynda <b>Nersesian</b>	Columbia Consulting Group, Inc.	Merck & Co., Inc.	Senate Judiciary Subcommittee on Administrative Practice
W. <b>Caffey</b> Norman III	Patton Boggs	<b>Ciba-Geigy</b> Corp.	Treasury Department
Patrick <b>O'Donnell</b>	O'Connor & Hannan	FMC Corp.	White House
Joseph O'Neill	Public Strategies Washington, Inc.	Monsanto Co.	Sen. Lloyd Bentsen <b>(D-Texas)</b>
John <b>Olinger</b>	Downey <b>Chandler</b> , Inc.	E.I. du Pont de Nemours and Co.	Rep. Thomas Downey (D-N.Y.)

Lawyer/Lobbyist	Firm	Client	Former Employer/Position
Thomas Parry	Parry, Romani & DeConcini, Inc.	Monsanto Co.	Sen. Orrin Hatch (R-Utah)
<b>Humberto Pena</b>	<b>Hogan &amp; Hartson</b>	Monsanto Co.	House Agriculture Committee
<b>Alan Platt</b>	Gibson, Dunn & Crutcher	Terra Environmental	Sen. Edmund Muskie (D-Maine)
Michael Pollard	Michaels, Wisher & Bonner	Merck & Co., Inc.	Bureau of Consumer Protection
Catherine Porter	Miller & Chevalier	Monsanto Co.	Sen. John Chafee (R-R.I.)
Mark Raabe	Mark Raabe	Merck & Co., Inc.	House Energy and Commerce Committee
Steve <b>Ricchetti</b>	Ricchetti & Associates	<b>Novartis</b>	White House
Doug Richardson	Winston & <b>Strawn</b>	FMC Corp.	Rep. Lynn Martin (R-Ill.)
Romano Romani	Parry, Romani & DeConcini, Inc.	Monsanto Corp.	Sen. Dennis DeConcini (D-Ariz.)
Robert Rozen	Washington Counsel	Monsanto Co.	Sen. Majority Leader George Mitchell (D-Maine)
Randall Russell	<b>Leshner &amp; Russell, Inc.</b>	Monsanto Co.	Agriculture Department
Marc Scheineson	Reed Smith Shaw & McClay	Bayer	Rep. Bill Gradison (R-Ohio)
Linda <b>Arey Skladany</b>	Parry, Romani & DeConcini, Inc.	Monsanto Corp.	White House
Deborah <b>Sliz</b>	APCO Associates	<b>Rhône-Poulenc</b>	House Interior and Insular Affairs Subcommittee on Energy and Environment
Steven <b>Symms</b>	Symms, <b>Lehn</b> & Associates, Inc.	FMC Corp.	U.S. Senator (R-Idaho)
William Timmons	Timmons & Co., Inc.	Monsanto Co.	White House, Sen. Alexander Wiley (R-Wis.)
Timothy Urban	Washington Counsel	Monsanto Co.	Rep. Wally Herger (R-Calif.)
Mark Weinberger	Washington Counsel	Monsanto Co.	Sen. John Danforth (R-Mo.)
Richard White	Alpine Group, Inc.	FMC Corp.	Sen. John Chafee (R-R.I.)



# Notes

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